Chapter XIV

Diving Accidents*

INCREASING NUMBERS OF SAILING VESSELS are utilizing divers as crew members. Divers have unique medical needs because of the rare and unusual nature of serious diving injuries. Very few health professionals are skilled in diagnosing and treating divers. Consequently, it is extremely important that those responsible for shipboard health care be able to recognize the signs of injury and insure the diver has access to diving medicine help when required. The information presented is a simplified version and not intended to cover complete treatment.

THE DIVING ACCIDENT PROBLEM

Two life-threatening conditions occur as a result of a diving accident—air embolism and decompression sickness.

Air embolism occurs when bubbles entering the blood-stream from a damaged lung obstruct the blood flow to an area of the brain, usually causing unconsciousness and paralysis.

Any person who has breathed air underwater, regardless of depth, may have an air embolism. This can occur even as shallow as 4 feet with a breath-hold ascent. Even a well-trained diver breathing properly during ascent may embolize because of medical problems affecting the lungs, causing air-trapping during ascent. The pressure of this expanding air may be sufficient to rupture lung air sacs and the escaping air may enter the bloodstream as an air embolism. Less serious problems such as a pneumothorax or mediastinal and subcutaneous emphysema may also result. A full discussion of these problems starts on page XIV–4.

Decompression sickness is the syndrome of joint pains (the bends), numbness, paralysis, and other symptoms caused by gas dissolved in tissues forming bubbles on surfacing after a dive.

Decompression sickness can occur in any individual who violates the decompression tables, either willingly or unintentionally, when surfacing from depths greater than about 30 feet. Sport divers place themselves at risk of decompression sickness by even approaching the limits of the U.S. Navy dive tables. Since bends do occur when following the U.S. Navy tables, a cautious diver stays well within the table limits.

To insure successful treatment, crew members, emergency medical personnel, and physicians must be able to recognize these dive re-

* Derived from Underwater Diving Accident Manual. 1982. Duke University Medical Center, N.C., with permission.

lated problems and begin the proper early treatment while arranging entry into the hyperbaric trauma system.

Early Treatment Approach

All symptoms of air embolism and decompression sickness are considered together in the early management of a diving accident. It is more important to use proper early treatment than to attempt to distinguish between the two conditions because the initial management for both conditions is the same until recompression therapy is started.

Mild Symptoms

The injured diver may experience mild symptoms at first and ignore the warning signals until serious symptoms have developed.

Fatigue or unusual tiredness and itching are considered mild symptoms and may respond to treatment with oxygen. Joint pain has sometimes been considered a mild symptom, but requires recompression and therefore is handled as a severe symptom. No symptoms should be ignored as the progression from mild to severe can occur rapidly.

If a diver experiences mild symptoms on surfacing, place the diver on his left side with his head down and give oxygen. Oxygen treatment may relieve the symptoms or prevent them from getting worse. If the symptoms appear relieved after an interval of oxygen treatment, do not remove the oxygen immediately as the symptoms may recur. The victim should continue to receive oxygen for at least thirty minutes for mild symptoms, and then the Flow Chart should be followed for further instructions.

Severe Symptoms

Any symptom such as pain, weakness, numbness, dizziness, nausea or decreased consciousness can be a symptom of a severe diving accident. When these symptoms occur shortly after a dive, a serious diving injury is the likely cause.

Severe symptoms are a serious medical emergency which requires urgent medical evaluation and treatment at a hospital, followed by emergency evacuation to an appropriate recompression chamber. Calling the physician helps establish an early accurate diagnosis and speeds transfer to a recompression chamber if needed. If a person shows any severe symptoms within 24 hours after a dive, place the victim in the left-side-down-head-low position and provide oxygen during transport to the nearest medical facility. Monitor pulse and respiration and follow the instructions in the Flow Chart until evacuation to a recompression chamber has been accomplished.

Diving accident victims who receive oxygen immediately after their injury have a much better recovery than if no oxygen is used. The crucial value of early oxygen breathing must always be emphasized, particularly for diving injuries not occurring near chambers.

Do Not Attempt In-Water Compression!

In-water recompression of the diver usually ends with the diver forced to the surface by cold or inadequate air supply. This causes incomplete treatment and further nitrogen uptake by the diver. If a victim has mild signs and symptoms of decompression sickness, the usual result is a much more seriously injured diver. If the initial symptoms are severe, the result is usually disastrous. In-water recompression should never be attempted.

DIVING ACCIDENT MANAGEMENT FLOW CHART

In a suspected diving accident the first question is "Did the victim take a breath underwater?" from a SCUBA tank, hose, bucket, submerged car, or any compressed air source, regardless of depth.

If the answer is no, give CPR and oxygen if needed and evaluate as a medical problem not related to diving (see p. IV–1).

If the injured diver did breath underwater and only mild symptoms are present (fatigue and itching only), place the patient in left-side-down-head-low position and administer two aspirin, oxygen and oral fluids while maintaining close observation.

If the symptoms do not clear, **obtain medical advice by phone.** Treat as a serious injury.

If the injured diver did breathe underwater and has serious symptoms, do the following:

1. Administer CPR if required (see p. IV–1).
2. Keep airway open and prevent aspiration of vomitus. Intubate unconscious injured diver if possible.
3. Keep injured diver in left-side-down-head-low position (Trendelenburg).
4. Administer **oxygen** by tight-fitting double-seal mask at the highest possible oxygen concentration. Do not remove oxygen except to reopen the airway or if the victim shows signs of oxygen convulsions.
5. Protect the injured diver from excessive heat or cold.
6. Give conscious patients non-alcoholic liquids such as fruit juices or oral balanced salt solutions, e.g. Gatorade®.

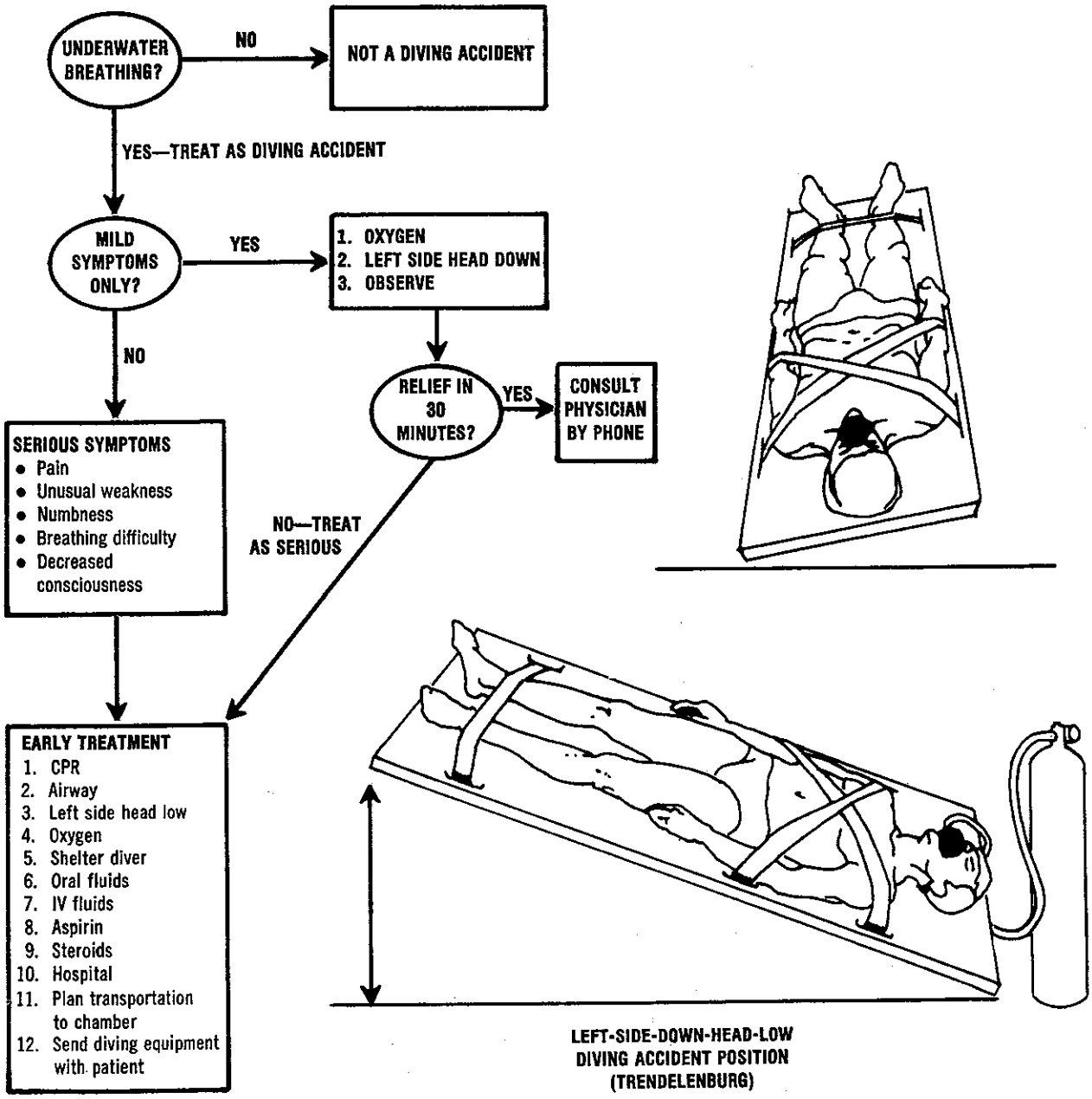

Fig. 13-1. Diving Accident Management Flow Chart.

7. **Intravenous fluid** replacement with electrolyte solutions is preferred for unconscious or seriously injured victims. Ringer's lactate, normal saline, or 5% dextrose in saline may be used. Do not use 5% dextrose in water.
8. Give two **aspirin**, as an anti-platelet agent, as a one time dose to a conscious diver only.
9. If there is evidence of involvement of the central nervous system, give **steroids**, hydrocortisone hemisuccinate, 1.0 gm. i.v. or dexamethasone, 20–30 mgm. i.v.
10. Evaluate and stabilize patient at the nearest hospital emergency room prior to transfer to recompression chamber if needed.
11. **If air evacuation is used, it is critical that the patient not be exposed to decreased barometric pressure at altitude.** *Flight crews must maintain cabin pressure at sea level.*
12. Send all diving equipment with the patient for examination. If that is not possible, arrange for local examination and gas analysis.

RECOGNIZING UNDERWATER DIVING ACCIDENTS

An awareness of the symptoms and signs of underwater diving accidents and other common underwater disorders is necessary to recognize a serious accident. The following pages describe the common symptoms and signs that divers may experience. An explanation of their causes is also given to help the reader understand some of the basis for prevention and management.

Air Embolism

Cause

As a diver surfaces without exhaling, air trapped in the lungs expands and may rupture lung tissue releasing gas bubbles into the circulation which distributes them to the body tissues. The ascending diver is normally in a vertical position and the bubbles tend to travel upward to the brain, eventually reaching a small artery and blocking circulation. The effects of halting circulation to the brain are critical, often leading to unconsciousness and paralysis, and require immediate treatment.

An air embolism can also cause minimal symptoms of neurological dysfunction such as numbness or tingling of an arm or leg, weakness of a body region, or vision, speech or hearing loss, without loss of consciousness.

A diver may ascend without exhaling as a result of any of the following:

Inadequate training
Careless ascent technique
Careless depth control
Heavy work or distraction on ascent
Panic (not the most common cause)

Air embolism sometimes occurs unexpectedly in divers with lung conditions which result in local air trapping. Although most lung diseases can cause this problem, some common conditions are the following:

any lung infections
lung cysts
tumors
scar tissue
mucous plugs
obstructive lung diseases

Without a medical exam, the diver may not be aware of the risk, although some conditions are undetectable. No breathing maneuvers decrease the risk of embolism if the diver has one of these disorders.

All smokers have an increased risk of having an air embolism during normal careful ascents.

Symptoms

1. Dizziness
2. Visual blurring
3. Chest pain
4. Bloody froth from mouth or nose
5. Disorientation
6. Personality change
7. Paralysis or weakness
8. Numbness and tingling

Signs

1. Bloody froth from mouth or nose
2. Paralysis or weakness
3. Convulsions
4. Unconsciousness
5. Breathing may stop
6. Death

Note: Symptoms and signs usually appear during or immediately after surfacing and may resemble a stroke.

Prevention

1. Always relax and exhale normally during ascent.
2. Get a periodic medical examination by a physician knowledgeable in diving medicine.

Treatment

Early management of air embolism and decompression sickness is similar and is covered on page XIV–2. Although a diver with an air embolism requires urgent recompression for definitive treatment, patient stabilization and early medical management at the nearest medical facility should be accomplished before transportation to a chamber.

Early oxygen therapy is vital and may reduce symptoms substantially, but this should not change the treatment plan.

Recompression therapy of an embolism can be effective even if delayed. Successful treatment has occurred as much as two days late, although early treatment is easier and more effective.

Decompression Sickness

Cause

Decompression sickness (bends, caisson disease) is the result of inadequate decompression following exposure to increased pressure. While immediate recompression is not usually a matter of life and death as in air embolism, serious injury does occur and the quicker recompression starts, the better the recovery.

During a dive, the body tissues absorb nitrogen from the breathing gas in proportion to the surrounding pressure. As long as the diver remains at pressure, the gas presents no problem. If the pressure is removed too quickly, the nitrogen comes out of solution and forms bubbles in the tissues and blood stream. This commonly occurs as a result of violating the diving table limits.

Bubbles forming in tissues near joints cause the pain of a classical "bend." When high levels of bubbles occur in the veins, complex blood changes occur. Blood clotting in the veins around the spinal cord causes numbness and paralysis. Diffuse activation of the inflammatory system in blood leads to pneumonitis symptoms in the lung as well as circulatory shock.

The great individual variation between divers caused by age, difference in physical fitness, body weight and other unknown factors, sometimes results in the diver developing decompression sickness in spite of correct use of the tables.

Symptoms

1. Unusual fatigue
2. Skin itch
3. Pain in arms or legs
4. Dizziness
5. Numbness and paralysis
6. Shortness of breath

Signs

1. Skin may show a blotchy rash
2. Numbness and paralysis
3. Staggering
4. Coughing spasms
5. Collapse or unconsciousness

Note: Symptoms and signs usually appear within 15 minutes to 12 hours after surfacing; in severe cases, symptoms may appear sooner.

Prevention

The United States Navy Dive Tables should be used conservatively by all divers. The standard procedure is to select the depth in the table equal to or next greater than the actual depth. However, experienced navy divers often select a table depth 10 feet deeper than called for by standard procedure. This practice is highly recommended, especially in cold water or dives requiring heavy exertion.

Treatment

Just as in air embolism, decompression sickness requires urgent recompression for complete treatment. However, patient stabilization and early medical care at the nearest medical facility should be accomplished before transportation to a chamber.

Early oxygen therapy may reduce symptoms substantially, but this should not change

the treatment plan. Immediate oxygen breathing by the injured diver must be emphasized as a vital and highly effective measure. Divers treated with early oxygen have a considerably better treatment outcome.

Recompression treatment of all forms of decompression sickness can be effective, even if delayed. Successful treatment has occurred as much as four days later, although early treatment is easier and more effective.

Nitrogen Narcosis

Cause

The effects of nitrogen on the diver have been compared to those of alcohol. Just as alcohol impairs judgment and coordination, nitrogen affects the diver as he reaches depths of about 100 feet. Everyone is affected although there is great individual variation. The effects are often not recognized as the diver becomes overconfident. This is especially true of the "experienced" diver who may have made dives beyond 100 feet without incident.

While experiencing narcosis, most divers will be able to perform routine tasks with some impairment, but they may not be able to handle an emergency because of the rigid thinking and decrease in mental abilities.

Nitrogen narcosis often has unrecognized warning symptoms and can be deadly. Nitrogen narcosis plays a major role in many diving accidents and divers should be aware that all are affected.

Symptoms

1. Rigid and inflexible thinking
2. Loss of judgement
3. False sense of security
4. Lack of concern for job and own safety
5. Tendency to panic rather than to cope constructively
6. Near unconsciousness at great depth

Signs

1. Inappropriate behavior
2. Repeating but not obeying hand signals
3. Stupor and coma

Treatment

Return to surface with controlled ascent and replan dive.

Oxygen Poisoning

Cause

Although oxygen is required for life by all living creatures, it can have toxic effects when breathed at above normal pressures. The diver using regular SCUBA equipment at reasonable depths will not encounter this problem, but gas density and heavy exertion can cause carbon dioxide retention which makes divers more sensitive to oxygen. This can produce oxygen convulsions at depths past 140 feet.

Divers using modified gas mixtures with concentrations of oxygen higher than air are at risk at much shallower depths. A diver breathing pure oxygen can have convulsions as shallow as 25 feet.

Symptoms

1. Muscle twitching in face
2. Nausea
3. Dizziness
4. Abnormal vision
5. Confusion
6. Ringing ears

Signs

1. Twitching muscles
2. Decreased consciousness
3. Convulsion
4. Unconsciousness

Treatment

Early symptoms should be treated by surfacing. There is no satisfactory treatment of underwater convulsion that avoids air embolism or drowning. Use prudence and planning to avoid this catastrophe.

Carbon Dioxide Excess

Cause

Carbon dioxide buildup in the diver using conventional scuba equipment is caused by skip breathing, over-exertion, or equipment malfunction. This problem is more common in divers using rebreathing equipment with carbon dioxide scrubbers, however, the high gas density of compressed air at depths over 100 feet can cause normally adequate regulators to perform poorly and lead to carbon dioxide buildup.

Heavily exercising divers deeper than 100 feet are therefore at risk for carbon dioxide buildup.

Symptoms

1. Labored or rapid breathing
2. Short of breath feeling
3. Headache
4. Dizziness, nausea
5. Confusion and unclear thinking

Signs

1. Slowed response
2. Muscle twitching
3. Unconsciousness

Treatment

The symptoms clear quickly after the cause is removed, although a headache may persist for hours. The diver who does not stop and rest during the early symptoms, risks unconsciousness at depth, which has no satisfactory management and commonly leads to embolism or drowning.

Other Lung Pressure Problems

Overinflation of the lungs is the common cause of a number of disorders. A local pressure buildup in part of the lung may damage it and allow air to escape from the lung into the circulation leading to air embolism. Air can also escape from the lung into other nearby tissues and cause three other disorders, pneumothorax, mediastinal emphysema and subcutaneous emphysema. These disorders can occur separately or along with an air embolism, depending on the exact nature of the lung injury. The occurrence of any of these disorders means that the lung has been injured and an air embolism should be suspected.

All of the causes of air embolism mentioned on page XIV–4 may cause lung overpressure problems as well.

Pneumothorax

Cause

The lungs are not attached directly to the chest wall but are kept expanded in the chest cavity by negative pressure between the lung and the chest wall. A lung can collapse if damage to the lung allows air to enter the chest cavity and alter the negative pressure that normally keeps the lung expanded.

Symptoms

1. Shortness of breath
2. Pain in chest

Signs

1. Rapid shallow breathing
2. Blue skin, lips, fingernails

Treatment

A person with a pneumothorax does not need recompression but needs medical treatment. A physician will insert chest tube, withdraw air from the chest cavity, and reinflate the lung if necessary. A chest tube is needed if recompression therapy is used for other reasons.

Mediastinal Emphysema

Cause

Air may escape from a damaged lung into the space between the lungs which is called the mediastinum and contains the heart and various large blood vessels. This space extends from the diaphragm to the neck.

Symptoms

1. Faintness
2. Shortness of breath
3. Pain in chest, usually under breastbone

Signs

1. Difficulty in breathing
2. Change in voice

Prevention

Breathe properly during ascent

Treatment

Observe for other problems and DO NOT recompress the patient unless air embolism or decompression sickness are also present.

Subcutaneous Emphysema

Cause

Air escaping from a damaged lung may also be trapped under the skin, usually around the neck.

Symptoms

1. Feeling of fullness around neck
2. Change in voice

Signs

1. Swelling of base of neck
2. Difficulty swallowing
3. Crackling sound when skin is pressed

Treatment

This is usually not an emergency and no treatment is needed. The patient should be observed for other problems.

Ear Disorders

Cause

The commonest dive related ear problem is infection but this is seldom part of a serious accident. Serious ear injury is usually caused by inadequate ear clearing on descent. Rupture of the ear drum or a similar smaller membrane covering the round window inside the ear can result from descending over 4 feet with blocked ears from forceful clearing attempts once the ear is blocked.

These problems occur most commonly in inexperienced divers who are also least able to cope with the severe dizziness at depth which these injuries cause. This can lead to a much more serious accident.

Ear clearing injuries are rare on ascent because the shape of the eustachian tube allows gas to exit easily. Previously clearing problems on descent may result in persistent eustachian tube swelling, leading to greater ear clearing difficulty on ascent. Dizziness on ascent or shortly after a dive can also be caused by decompression sickness in a serious diving accident.

Symptoms

1. Dizziness
2. Nausea
3. Ear pain
4. Jaw or neck pain
5. Hearing difficulty

Signs

1. Nystagmus
2. Traumatic ear drum damage
3. Hearing loss

Treatment

Physician assessment determines the proper medical care. Serious ear damage should be treated by a specialist consulting with an experienced diving ENT physician.

Appendices

Appendix A— Physical Examination Standards for Original Entry into the U.S. Merchant Marine

Appendix B— Regulations Governing Foreign Quarantine, U.S. Public Health Service

Appendix A

REFERENCE GUIDE: PHYSICAL EXAMINATION STANDARDS FOR ORIGINAL ENTRY INTO THE U.S. MERCHANT MARINE

A. Introduction

Since the industrial revolution and the advent of complex machinery society has recognized the need of protecting the worker from illness or injury in the working environment. Through the efforts of government, labor organizations, management and private agencies, laws were developed to assure a safe and healthy workplace for employees. Most of the efforts were directed toward workplaces ashore, relatively little attention being paid to the health and safety of the maritime industry or the seafarer at sea.

After extensive hearings before the Congressional Committee on Merchant Marine and Fisheries in 1978, a consensus of labor, management and government was reached that U.S. Coast Guard regulations pertaining to health and personal safety at sea were either obsolete, inadequate, or poorly applied. To assist the Coast Guard in revising, updating and promulgating quality health standards, a collaborative group with membership from shipowners/operators, seafarers, shipping associations, U.S. Public Health Service, Maritime Administration, and the U.S. Coast Guard was formed. The group, titled the Seafarers' Health Improvement Program (SHIP), addressed the problems of:

I. Setting of Physical Standards
II. Personal Safety Aboard Ship
III. Standards for the Ships Medicine Chest and Medical Training
IV. Improvement of Medical Care Aboard Ship and Ashore

Over a three year period, SHIP developed recommendations for Entry Level Physical Qualifications. The maritime community was encouraged to develop and implement its own maritime health standards which could be considered for adoption by reference.

Need

The recognition of the need for physical entry level standards is not new. It has long been realized that the seafaring environment is arduous and exposes personnel to a multitude of hazards to life and limb. It has always been essential that the crew members be physically fit to perform their duties, respond to emergencies at sea and to reduce the potential incidence of personal injury or illness when remote from shore side medical facilities. The health status of individual crew members is one of many factors affecting the safe operation of a ship. A ship at sea is dependent on the continuing health and efficient functioning of each of the crew. Illness or injury of a crew member directly affects the well being of the entire ship. It is impossible to find replacements for crew members who become sick or injured while at sea.

Objectives

The Entry Level Physical Standards which follow were derived by SHIP in a collaborative effort between seafarers, shipowners/operators and governmental organizations. They are aimed at providing a *reference resource for guidance of medical examiners* to assure a uniformly applied method of evaluating an individual's physical capacity and emotional adaptability for initial employment in the maritime environment. The recommendations are based solely on the necessity of the seafarer being able to *EFFECTIVELY and SAFELY* perform the duties of a given job without endangering himself/herself, the crew, or the safety of the vessel. With that intent the conditions listed were examined to ensure that the objective was met.

The physical examination is of great importance to the individual applicant, and to the industry itself. The examiner should conduct the physical examination to elicit sufficient medical history and data from the applicant to determine if he/she is disqualified under the standards.

Applicability

The provisions of the entry level standards may be applied to all persons in qualifying for

shipboard employment when *first entering* the industry.

The standards apply until the applicant completes six (6) months of actual seatime. Conditions contained in this section, which are not work related, and which become apparent within the initial six months of employment may be considered disqualifying as if they had been discovered at the initial examination. At this time, these standards are voluntary, but represent the best medical judgment available.

Conformance to Standards

To be considered physically fit for entry, the applicant will be examined according to established medical procedures to determine and certify that the applicant is free of the disqualifying conditions as listed in the Entry Level Standards. The certification may satisfy a condition of employment for the maritime industry. Examiners shall not disregard impairments or disabilities which are disqualifying in accordance with the Entry Standards listed.

The lists of causes for rejection are not intended to be complete, but are representative. A specific cause for rejection is to be considered disqualifying *only while such condition persists.* Following corrective medical action the applicant may reapply for entry. An examinee who fails to meet these standards shall be found to be disqualified.

The finding of a disqualifying condition for shipboard employment in no way implies inability to work ashore.

B. Disqualifying Conditions

1. *General.* Any disorder which is likely to become life threatening or need acute definitive treatment.
   a. *Blood and Bloodforming Tissue Diseases*
      (1) *Anemia*: as indicated by decreased Hematocrit, or Hemoglobin or RBC count, or morphology and RBC indices (per TODD-SANFORD)
      HCT: M: 40–54% F-38–47% *HGB*: M: 13.5–18 gm/dl F: 12.0–16.0 gm/dl *RBC*: M: 4.6–6.2 F: 4.2–5.4
         (a) *Blood Loss Anemia.* Blood loss anemia, until condition and basic cause are corrected.
         (b) *Deficiency Anemia.* Deficiency anemia, until both condition and basic cause are corrected.
         (c) *Hemolytic Anemia.* Hemolytic anemia: abnormal destruction of RBC's; faulty RBC construction; hereditary hemolytic anemia; thalassemia major; and, sickle cell anemia.
         (d) *Myelophthisic Anemia.* Myelophthisic Anemia: Myelomatosis, Leukemia, Hodgkin's disease.
         (e) *Refractory Anemia.* Primary refractory anemia: aplastic anemia, DiGuglielmo's syndrome.
      (2) *Hemorrhagic States.* Hemorrhagic states due to changes in coagulation system (hemophilia, etc.), or due to platelet deficiency, or due to vascular instability.
      (3) *Hyperlipidemias.* Type IIA. (Essential Familiar Hypercholesterolemia)
      (4) *Leukopenia.* Chronic or recurrent leukopenia, associated with increased susceptibility to infection. WBC<3000 on 3 tests
      (5) *Myeloproliferative Disease.* Myeloproliferative disease (other than leukemia); myelofibrosis; megakaryocytic myleosis; polycythemia vera, DiGuglielmo's disease.
      (6) *Splenomegaly.* Splenomegaly until the cause is remedied or determined to be idiopathic.
      (7) *Thromboembolic Disease.* Recurrent thromoembolic conditions.
      (8) *Purpuras.*
      (9) *Hemoglobinopathies.* Waldenstroms, Heavy chain disease.
   b. *Systemic Diseases*
      (1) *Non-Tuberculous Diseases.* Dermatomyositis; lupus erythematosus, acute, subacute, or chronic; Reiter's disease; sarcoidosis; diffuse type scleroderma; progressive systemic sclerosis; polyarteritis nodosa, Dematomyositis, Gaucher's disease.
      Tuberculosis: (See also under Lungs & Pleura)

(a) *Active.* Active tuberculosis in any form or location and of any degree or extent.

(b) *History.* History of tuberculosis of a bone or a joint, genitourinary organs, intestines, peritoneum or mesenteric glands at any time within the past five years.

c. *Malignant Diseases and Tumors, and benign Tumors*

(1) *Benign Tumors which interefere with the functional job requirements or which would be aggravated by job required protective clothing.*

(2) *Malignant Disease and Tumors*

(a) *Diseases.* Malignant disease of all kinds in any location.

(b) *Leukemia.* Acute or chronic leukemia of all types.

(c) *Lymphomata.* Malignant lymphomata.

(d) *Tumors.* Malignant tumors or substantiated history thereof, of any kind, unless successfully removed 5 or more years previously.

d. *Other Miscellaneous Conditions*

(1) *Allergic Manifestations.* Bona fide history of severe systemic (as opposed to local), allergic reaction to insect bites or stings. Bona fide history of severe generalized reaction to common foods (i.e., milk, eggs, beef, and pork).

(2) *Chemical Intoxication.* Industrial solvent and other *chronic* chemical intoxication, including carbon bisulfide, trichloroethylene, carbon tetrachloride, and methyl cellosolve. (Consult Toxic Chemical Manual and see poisoning and radiation exposure below.)

(3) *Cold Injury.* Residuals of cold injury (example: frostbite, chilblain, immersion foot, or trench foot) such as deep-seated ache, paresthesia, hyperhidrosis, easily traumatized skin, cyanosis, or ankylosis.

(4) *Deformity.* Any deformity which impairs general functional ability to such an extent as to prevent satisfactory performance of employment requirements.

(5) *Mycotic Infection.* Mycotic infection of internal organs.

(6) *Myositis.* Severe, chronic myositis or fibrositis.

(7) *Obesity.* Of greater than 23% body fat as determined by multifocal skin fold measurement.

(8) *Chronic Diseases.* All diseases and conditions which are not easily remediable or that tend physically to incapacitate the individual, such as: chronic malaria or malarial cachexia, rheumatoid arthritis, tuberculosis, leprosy, actinomycosis; osteomyelitis, hemophilia, purpura, pernicious anemia, sickle cell anemia, or trypanosomiasis. Including nutritional disorders, vitamin deficiency disorders, anorexia, globus hystericus.

(9) *Parasitic Infestations.* Amebiasis; *schistosomiasis;* uncinariasis (hookworm associated with anemia, malnutrition, etc., if more than mild; and other similar worm or animal parasitic infestations, including the carrier states thereof.

(10) *Poisoning.* Chronic metallic poisoning, especially beryllium, manganese and mercury. Undesirable residuals from lead, arsenic, or silver poisoning. (Also see chemical intoxication & radiation, ionizing, exposure.)

(11) *Pyrexia.* Heat pyrexia (heat stroke, sunstroke, etc.). Evidence of predisposition (includes disorders of sweat mechanism and previous serious episode), recurrent episodes requiring medical attention, or residual injury resulting therefrom (especially cardiac, cerebral, hepatic, and renal).

(12) Radiation, ionizing, exposure: Long-term accumulation of combined whole body dose equivalent shall not exceed (N-18) 5 REMS,

where N = chronological age. (*Health Protection Of Radiation Workers*, c.c Thomas Publishers, 1975 Ed.)

(13) *Residuals.* Residuals of tropical fevers and various parasitic or protozoal infestations which in the opinion of the medical examiner preclude the satisfactory performance of job requirements.

(14) *Orthopedic Hardware or Surgical implants.* Breast implants, penile implants, plates, pins, screws, etc., used in the body for the correction of fractures, congenital defects, or for any other reason, are not disqualifying, if otherwise suitable; excludes medicinal and radiation emitting device implants.

2. *The Head, Face, Neck, and Scalp*

a. *Abnormalities.* Abnormalities which are apparently temporary in character resulting from recent injuries until a period of 3 months has elapsed. These include severe contusions and other wounds of the scalp and cerebral concussion.

b. *Cicatrices.* Extensive cicatrices, especially such adherent scars as show a tendency to break down and ulcerate or limit hand or limb motion.

c. *Deformities:*

(1) Deformities of the skull in the nature of depressions, exostoses, etc., of a degree which would prevent the wearing of safety headgear.

d. *Depressions.* Depressed fractures near central sulcus with convulsive seizures. Other depressed fractures or other depressions unless the examiner is certain the defect is slight and will cause no future trouble.

e. *Hernia.* Hernia of the brain.

f. *Loss of Bony Substance.* Loss or congenital absence of the bony structure of the skull unless the examiner is certain the defect is slight and will cause no future trouble. Absolutely disqualifying if:

(1) Area exceeds 25 square centimeters and overlies the motor or cortex or dural sinus, unless covered with a permanent suitable, practical plate or protective device.

(2) There is evidence of alteration of brain function in any of its several spheres (intelligence, judgment, perception, behavior, motor control, sensory function, etc.).

(3) There is evidence of bone degeneration, disease, or other complications of such a defect.

g. *Maxillary Bones and Mandible.* Ununited fractures of the maxillary bones, deformities of either maxillary bone interfering with mastication or speech, extensive exostosis, necrosis, or osseous cysts. Chronic arthritis of the temporomandibular articulation, bady reduced or recurrent dislocations of this joint, or ankylosis, complete or partial, precluding a suitable degree of mastication to maintain vigor & nutritional status on a normal shipboard menu.

h. *Neuralgia and Paralysis.* Persistent neuralgia, or incapacitating tic douloureux or paralysis of central nervous origin.

i. *Ossification.* Imperfect ossification of the cranial bones or persistence of the anterior fontanelle.

j. *Conditions of the Neck*

(1) *Adenitis.* Cervical adenitis of other than benign origin, including cancer, Hodgkin's disease, leukemia, tuberculosis, syhpilis, etc.

(2) *Adenoma.* Thyroid adenoma interfering with breathing; exophthalmic goiter or thyroid enlargement from any cause associated with toxic symptoms, or ocular symptoms.

(3) *Cysts.* Congenital cysts of bronchial cleft origin or those developing from the remnants of the thyroglossal duct, if draining or otherwise symptomatic.

(4) *Fistula.* Fistula, chronic draining, of any type. Tracheal openings; thyroglossol or cervical fistulae.

(5) *Motility.* Restricted motility sufficient to limit the normal range of motion.

(6) *Scars.* Adherent scars from disease,

injuries or burns, interfering with function.

(7) *Thoracic outlet syndromes:* Cervical ribs if symptomatic, scalenus anticus, etc.

(8) *Torticollis.* Torticollis, nonspastic contraction of the muscles of the neck to the extent that it interferes with wearing equipment. Spastic contractions of the muscles of the neck, persistent and chronic.

3. *The Nose, Sinuses, Mouth and Throat*

a. *Conditions of Nose*

(1) *Choana.* Choana, artesia, or stenosis of, if symptomatic.

(2) *Deformities.* Loss of the nose, malformation, or deformities thereof that interfere with speech or breathing, or extensive ulcerations.

(3) *Inflammation.* Atrophic rhinitis. Sjogren's Syndrome. Acute or chronic inflammation of the accessory sinuses of the nose; hay fever or allergic rhinitis, if more than mild, incapacitating, and if there is associated hyperplastic sinusitis or nasal polyps, or a history thereof, when in the opinion of the examiner, the condition is likely to frequently recur, or to cause more than minimal loss of time from duty or otherwise is of present or future clinical significance.

(4) *Obstruction.* Nasal obstruction due to septal deviation, hypertrophic rhinitis, or other causes, and particularly if sufficient to produce mouth breathing, and requiring chronic care.

(5) *Perforation.* Perforated nasal septum if considered causative of symptoms or local pathology, or likely to do so; if associated with interference of function, ulceration or crusting, and when progressive.

(6) *Sinusitis.* Chronic sinusitis, if not amenable to therapy; for example, if evidenced by chronic purulent nasal discharge, large nasal polyps, hyperplastic changes of the nasal tissues and other signs and symptoms, or if confirmed by transillumination or x-ray examination or both.

(7) *Anosmia.* If unable to detect fumes and smoke.

b. *Conditions of the Mouth and Throat*

(1) *Adenoids.* Postnasal adenoids interfering with respiration or associated with middle-ear disease.

(2) *Deformities:*

(a) *Lip.* Harelip, unless adequately repaired; loss of the whole or large part of either lip; mutilations of the lips from wounds, burns or disease that interferes with speech and normal eating; perforation or extensive loss of substance or ulceration of the hard or soft palate to the pharynx, or paralysis of the soft palate.

(b) *Pharynx.* Malformation or deformities of the pharynx of sufficient degree to interfere with function.

(c) *Tongue.* Malformation, partial loss, atrophy, or hypertrophy of the tongue; split or bifide tongue or adhesions of the tongue to the sides of the mouth; if these conditions interefere with mastication, speech, or swallowing, or appear to be progressive.

(3) *Esophagus.* Organic diseases of esophagus such as ulcerations, varices; achalasia; peptic esophagitis; if confirmed by appropriate X-ray or esophagoscopic examination. (*See* Gastrointestinal conditions)

(4) *Laryngeal Paralysis.* Laryngeal paralysis, sensory or motor, due to any cause, with history of recurrent aspiration pncumonia, or aphonia.

(5) *Pharynx.* Organic disease of such as neoplasm, polyps, granuloma, ulceration, and chronic laryngitis/pharyngitis not amenable to therapy.

(6) Salivary fistula.

(7) *Stomatitis.* Marked stomatitis, or ulcerations, or severe leukoplakia.

(8) *Tonsils.* Markedly diseased tonsils.

(9) *Trachea.* Tracheostomy or tracheal fistula.

4. *The Ears (General) and Drums*
   a. *Auditory Canal:*
      (1) *Atresia.* Atresia or severe stenosis of the external auditory canal, if complicated by hearing loss and frequent infections.
      (2) *Otitis.* Severe external otitis, acute or chronic.
      (3) *Tumors.* Tumors of the external auditory canal.
   b. *Mastoids:*
      (1) *Fistula.* Mastoid fistula.
      (2) *Mastoiditis.* Acute or chronic mastoiditis.
   c. *Meniere's Syndrome*
   d. *Middle Ear*
      (1) *Otitis Media:*
         (a) *Adhesive Otitis Media.* Adhesive otitis media associated with hearing loss by audiometric test of 25 dB. or more average for the speech frequencies (500, 1000, and 2000 cycles per second in either ear regardless of the hearing level in the other ear until condition cleared. (*See* Hearing for Residual Standard)
         (b) *Serous Otitis Media.* Acute or chronic serous otitis media, indicated by grayish, thickened drum(s).
         (c) *Suppurative Otitis Media.* Acute or chronic suppurative otitis media.
   e. *Tympanic Membrane:*
      (1) *Perforation.* Open marginal or central perforations of the tympanic membrane, and *attic perforation in which cholesteatoma is present or suspected.*
      (2) *Scarring.* Severe scarring of the tympanic membrane *associated* with hearing loss below entry standard of hearing.
   f. *Miscellaneous.* Any acute or chronic disease of the external, middle, or internal ear. Other diseases and defects of the ear which obviously preclude satisfactory job performance which require frequent and prolonged treatment.
   g. *The Ears (General) and Drums—Hearing Loss, Deafness:*
      (1) The minimal acceptable audimetric hearing level for employment:

International Standard Organization (ISO)

Cycles per second (hz)	*Both Ears*
500 1000 2000 3000 4000	Loss to the extent that Average of the 8 readings (4 per ear) in the speech frequencies is not greater than thirty (30) decibels with no Loss level greater than thirty five (35), and no greater than 55 (each ear).

or if the average of the three speech frequencies is greater than 30 decibels (ISO), re-evaluate the better ear only in accordance with the following:

500 hz	30 decibels
1000 hz	25 decibels
2000 hz	25 decibels
4000 hz	35 decibels

      (2) The poorer ear may be totally deaf.
      (3) Marginal questionable cases may require testing by masking, and testing for speech discrimination.

5. *The Eyes (General), Ophthalmoscopic, and Pupils*
   a. *Conjunctiva:*
      (1) *Conjunctivitis.* Chronic conjunctivitis including vernal catarrh and trachoma. Allergic conjunctivitis particularly if there is associated hyperplastic sinusitis or nasal polys, or a history thereof, when in the opinion of the examiner, the condition is likely to frequently recur, or to cause more than minimal time away from job or otherwise is of present or future clinical significance.
      (2) *Pterygium:* Pterygium encroaching on the visual field

b. *Cornea*:
   (1) *Dystrophy.* Corneal dystrophy of any type including keratoconus of any degree.
   (2) *Keratitis.* Acute or chronic keratitis.
   (3) *Staphyloma.*
   (4) *Ulcer.* Corneal ulcer; history of recurrent ulcers or corneal abrasions (including herpetic ulcers).
   (5) *Vascularization.* Vascularization or opacification of the cornea from any cause which interferes with visual function or is progressive.

c. *Iris or Pupils*
   (1) *Coloboma.* Extensive coloboma of the choroid or iris, absence of pigment (albino), glaucoma, iritis, or extensive or progressive choroiditis of any degree.
   (2) *Irregularities.* Irregularities in the form of the iris, or anterior or posterior synechia sufficient to reduce the visual acuity below the standard.
   (3) *Reactions.* Loss of normal pupillary reflex reactions to light or accommodation to distance.

d. *Lens*:
   (1) *Aphakia.* Unilateral or bilateral aphakia.
   (2) *Dislocation.* Partial or complete dislocation of a lens.
   (3) *Opacities.* Opacities of the lens or its capsule which interferes with vision or which are considered to be progressive cataracts of any degree.

e. *Lids*:
   (1) *Destruction.* Complete or extensive destruction of the lids sufficient to impair protection of the eye from exposure; and adhesions of the lids to each other or to the eyeball.
   (2) *Epiphora.* Epiphora, chronic dacryocysitis, or lachrymal fistula.
   (3) *Inversion/Eversion.* Inversion or eversion of the eyelids sufficient to cause watering of eyes (entropion or actropion).
   (4) *Lagophthalmos.*
   (5) *Trichiasis.* Trichiasis, ptosis, blepharospasm, or chronic blepharitis.

f. *Optic Nerve*:
   (1) *Atrophy.* Optic atrophy (primary or secondary).
   (2) *Neuritis.* Optic neuritis, neuroretinitis, or secondary optic atrophy resulting therefrom; or history of attacks of retrobular neuritis.
   (3) *Papilledema.*
   (4) *Pathology.* Congenito-hereditary conditions of the optic nerve or any other central nervous system pathology affecting the efficient function of the optic nerve.

g. *Retina*: Any of the following which have impaired vision below the standard.
   (1) *Angiomatoses.* Angiomatoses, phakomatoses, retinal cysts, and other congenito-hereditary conditions.
   (2) *Degenerations.* Degenerations of the retina to include macular diseases, macular cysts, holes, and other degenerations (primary and secondary).
   (3) *Detachment.* Detachment of the retina or history of surgery for same, unless successful.
   (4) *Inflammation.* Inflammation of the retina (retinitis or other inflammatory conditions of the retina to include Coat's disease, diabetic retinopathy, Eales' disease, and retinitis proliferans, and pigmentosa).

h. *Uveal Tract.* Inflammation of the uveal tract except healed traumatic choroiditis.

i. *Miscellaneous Eye Defects and Diseases:* if causing impairment of visual function and/or not meeting acuity standards.
   (1) *Abnormalities.* Abnormal conditions of the eye due to diseases of the central nervous system. Abnormal condition of the eye due to disease of the brain, or incapacitating abnormality, or acute or chronic disease of either eye.
   (2) *Absence.* Absence or disorganization of either eye.
   (3) *Asthenopia*
   (4) *Exophthalmos.* Unilateral or bilateral exophthalmos to a degree which would allow frequent and

chronic irritation/inflammation of the eyes.

(5) *Foreign Body.* Retained intraocular foreign body, unless of no clinical significance.

(6) *Glaucoma.* Primary or secondary glaucoma.

(7) *Hemianopsia.* Hemianopsia of any type.

(8) *Organic Disease.* Any organic disease of the eye or adnexa not specified herein which threatens continuity of vision or impairment of visual function.

(9) *Residuals.* Residuals of old contusions, lacerations, penetrations, etc., which impair visual function required for satisfactory job performance.

(10) *Contact Lenses.* If they are the exclusive means of correcting errors of refraction or other abnormalities to acceptable standards, i.e. must also be correctable with standard spectacles.

(11) *Visual Field* (see chapter II for method of testing indicated). Abnormal condition of the visual field due to disease. Contraction of visual field, "tunnel vision." Large or central scotomata.

(12) Night blindness, by history.

j. *Ocular Motility*

(1) *Conditions of Ocular Motility*

(a) *Diplopia.* Constant or intermittent diplopia from any cause or of any degree interfering with visual function. Monocular diplopia interfering with visual function.

(b) *Nystagmus.* Pronounced nystagmus.

(c) *Strabismus.* Surgery for the correction of stabismus within the preceding 6 months.

Esotropia > 4 diopters prism convergence
Exotropia > 2 diopters prism convergence

k. *Visual Acuity:*
Entry Level:

Deck personnel:	Binocular visual efficiency (BVE) corrected to 96%.
Engineering:	BVE corrected to 88%.
Stewards:	BVE corrected to 74%.

Correction must be with standard eye glasses. The degree of refractive error over a plus or minus 8.00 is disqualifying. In addition to these limitations, the difference in the refractive errors in any meridian of the two eyes (anisometropia) may not exceed 3.5 diopters. Cylinder correction may not exceed plus or minus 3.0 diopters. (Supply a code of current eye glass prescription with the report of physical examination.)

l. *Color Perception:* Testing of color perception will be by PIP plates or Farnsworth Lantern as appropriate.
Entry: All applicants for original license or documentation, except stewards, are required to be able to identify basic red, green and white points of lights.

6. *The Lungs and Chest:* (Where and when indicated by history and/or physical findings, support or confirm the disease entity with pulmonary function values.) (*See* d(16) below)

a. *Miscellaneous*

(1) *Abscess.* Acute abscess of the lung.

(2) *Bronchitis.* Acute bronchitis until the condition is cured.

(3) *Foreign Body.* Foreign body of the chest wall causing symptoms.

(4) *Fractures.* Recent fracture of ribs, sternum, clavicle, or scapula or malunion or non-union that compromises functional requirements.

(5) *Lesions.* Traumatic lesions of the chest or its contents.

(6) *Mycotic Disease.* Acute mycotic disease of the lung, such as coccidioidomycosis and histoplasmosis.

(7) *Pleurisy.* Acute fibrinous pleurisy associated with acute non-tuberculous infection.

(8) *Pneumonia.* Acute nontuberculous pneumonia.

b. *The Bronchi*

(1) *Asthma.* Asthma or history of asthma, including so called "childhood" asthma, unless there is a trustworthy history of freedom from attacks since the 12th birthday and provided that attacks prior to that time were not severe or prolonged and did not require extensive therapy.

(2) *Bronchiectasis*

(3) *Bronchitis.* Chronic bronchitis if with evidence of pulmonary function disturbance; or if more than mild and does not respond to therapy. (FEV, <70% of FEV).

(4) *Fistula.* Bronchopleural fistula.

c. *The Chest Wall and Breasts*

(1) *Contractions.* Pronounced contractions or markedly limited mobility of the chest wall following pleurisy or empyema.

(2) *Empyema.* Acute or chronic empyema, residual sacculation or unhealed sinuses of the chest wall following operation for empyema. Scars of old operations for empyema unless the examiner is assured that respiratory function is entirely normal.

(3) *Mastectomy.* See under benign or malignant tumors, specifications.

(4) *Mastitis.* Acute mastitis; chronic cystic mastitis, if more than mild, or new mass in breast until defined and evaluated under benign or malignant tumor specifications (b-1-c).

(5) *Sinuses.* Unhealed sinuses of the chest wall.

d. *The Lungs and Pleura*

(1) *Abscess.* Chronic abscess of the lung.

(2) *Bleb formation.* On x-ray, see pneumothorax.

(3) *Calcification.* Extensive calcifiication as evidenced by X-ray of the pleura, lung parenchyma or hilum, if of questionable stability or of such size and extent as to interfere with pulmonary function.

(4) *Chronic obstructive pulmonary disease.* If progressive, complicated and PFs below limits.

(5) *Cysts.* Cystic disease of the lung. Hydatid or echinococcus cysts of the lung.

(6) *Emphysema.* Bullous or generalized pulmonary emphysema.

(7) *Foreign Body.* Foreign body in the lung or mediastinum causing symptoms or active inflammatory reaction.

(8) *Hydrothorax or Hemothorax.*

(9) *Infiltration.* Pulmonary infiltration of undetermined origin.

(10) *Lobectomy.* History of lobectomy or pneumonectomy, unless well compensated in function, (perfusion & ventilation) (FEV, <70% of FEV)

(11) ***Mycotic Disease.*** **Mycotic diseases of the lung, chronic, residual cavitative or more than a few small-sized inactive and stable residual nodules demonstrated to be due to mycotic disease. Actinomycosis, nocardiosis, aspergillosis, or histoplasmosis if there is reason to suspect recent activity of the disease process.**

(12) *Pleurisy.* Acute or chronic pleurisy, pleurisy with effusion of undetermined origin, or history thereof within the preceding 5 years.

(13) *Pleuritis.* Chronic fibrous pleurisy of sufficient extent as to interfere with pulmonary function or obscure the lung field in the roentgenogram. X-ray evidence of fibrous or serofibrous pleurisy, except moderate diaphragmatic adhesions with or without blunting or obliteration or the costophrenic sinus.

(14) *Pneumoconiosis.* Pneumoconiosis; extensive pulmonary fibrosis from any cause, producing dyspnea on exertion; includes asbestosis.

(15) ***Pneumothorax.*** **Pneumothorax; recurrent spontaneous pneumothorax within the preceding three years, lacking pulmonary work up,**

and having evidence of blebs on x-ray.

(16) *Pulmonary Functions*: If FEV1 < 70% on screening, and blebs on x-ray: until and unless full test, including blood gases, shows acceptable saturations and compensated function.

(17) *Sarcoidosis.* Symptomatic compromised pulmonary function, and less than 3 years since successful treatment.

(18) *Tuberculosis Lesions*:

(a) *Active Tuberculosis.* Active tuberculosis in any form or location and of any degree or extent.

(b) *Pulmonary Tuberculosis.* A history of pulmonary tuberculosis clinically active within the past 5 years. Evidence of reinfection active or inactive, other than slight thickening of the apical pleura of thin solitary fibroid strands as evidenced by X-ray findings.

e. *Miscellaneous Defects and Diseases*

(1) *Chest Expansion.* A chest expansion of less than 2 inches, unless the examiner feels the expansion is consistent with the examinee's size and is not indicative of restrictive or obstructive pulmonary disease or other underlying pathology.

(2) *Malformation.* Congenital malformations or acquired deformities which result in reducing the chest capacity and diminishing the respiratory function to such a degree as to interfere with physical job requirement.

(3) *Osteomyelitis.* Osteomyelitis of rib, sternum, clavicle, scapula, or vertebra.

(4) *Periostitis.* Suppurative periostitis, or caries, or necrosis of the rib, sternum, clavicle, scapula, or vertebra.

(5) *Scapula.* Deformities of scapulae sufficient to interfere with function.

7. *The Heart and Vascular System*

a. *Abnormalities.* Any disease or defect rendering an American Heart Association (AHA), classification of III or more. Uncomplicated dextrocardia and other minor asymptomatic anomalies are acceptable. Such as: Small intraventricular septal and intratrial septal defects without shunt.

b. *Aneurysm.* Aneurysm of any variety in any situation.

c. *Arrhythmias.* Major cardiac arrhythmia or irregularity; history of paroxysmal tachycardia, or auricular fibrillation or flutter; electrocardiographic evidence of atrial tachycardia, flutter, or ventricular tachycardia or fibrillation, regardless of control by medication or insertion of a pacemaker.

d. *Circulatory Instability.* Marked circulatory instability as indicated by orthostatic hypotension, persistent tachycardia, severe peripheral vasomotor disturbances and sympatheticotonia.

e. *Claudication.* Intermittent claudication.

f. *History.* History or evidence of pericarditis, endocarditis, myocarditis, angina pectoris, coronary occlusion, or coronary atherosclerosis, except for history of a single acute idiopathic or coxsackie pericarditis with no residuals.

g. *Hypertension.* Arterial hypertension, essential hypertension, pulmonary (hypertensive vascular disease). Hypertension evidenced by preponderant (majority) readings of 140 mm or more systolic or a preponderant diastolic pressure of over 90 mm is cause for rejection unless controllable to 140 or under and 90 or under by commonly available, low dose medication and unless no evidence of eye ground changes, cardiac enlargement or kidney involvement exists. It is essential that the blood pressure readings be taken with the proper width cuff. The thick, very muscular arm as well as an obese arm will render a falsely elevated blood pressure reading if a wider cuff is not used. Where other than the regular cuff is used, state: "Readings obtained with "thigh" or "pediatric cuff" etc.

h. *Hypertrophy.* Hypertrophy or dilation of heart. Care should be taken to dis-

tinguish abnormal enlargement from increased diastolic filling as seen in the well-conditioned subject with a sinus bradycardia.

i. *Hypotension.* Arterial hypotension if it is causing, or has caused, symptoms, i.e., syncopal episodes (see seizures under neuro).

j. *Lesions.* Congenital or acquired lesions of the aorta and major vessels, such as syphilitic aortitis, demonstrable atherosclerosis which interferes with circulation, congenital or acquired dilation of the aorta (especially if associated with other features of Marfan's syndrome), and pronounced dilatation of the main pulmonary artery.

(1) *Rheumatic Fever.* History of rheumatic fever or chorea within the past 5 years, or a history of more than one attack of rheumatic fever or chorea at any time or P-R interval > .22 seconds.

(2) *Surgery.* History of any cardiac surgery other than pericardial and correction of congenital atrial and ventricular septal defects. (Applicant to supply operative summary).

(3) *Tachycardia.* History of paroxysmal tachycardia. Persistent tachycardia with a resting pulse of 100 or more, regardless of cause.

(4) *Thrombophlebitis.* History of thrombophlebitis with persistent thrombus or evidence of circulatory obstruction or deep venous incompetence in the involved veins. Recurrent thrombophlebitis.

(5) *Varicose Veins.* Varicose veins, if more than mild, or if associated with edema, skin ulceration, or residual scars from ulceration.

(6) *Vascular Diseases.* Peripheral vascular disease including Raynaud's phenomena, Buerger's disease thromboangiitis obliterans), erythromelalgia, arteriosclerotic and diabetic vascular diseases; acrocyanosis. Special tests should be employed in doubtful cases.

8. *The Abdomen and Viscera.*

a. *Abdominal Walls.* Wounds, injuries, cicatrices, or muscular ruptures of the abdominal wall sufficient to interfere with function. Sinuses of the abdominal wall.

b. *Bleeding.* Any G.I. bleeding evidenced by frank or occult blood by hematest and hematological studies until resolved; if more than one episode in past 5 years.

c. *Cholecystectomy.* Sequelae of cholecystectomy such as post-operative stricture of the common bile duct, reforming of stones in hepatic or common bile ducts, or incisional hernia, or post-cholecystectomy syndrome when symptoms are so severe as to interfere with normal job performance or require medical attention.

d. *Cholecystitis.* Acute or chronic, with or without cholelithiasis.

e. *Colostomy.* If post colostomy, see restrictions.

f. *Cirrhosis.* Cirrhosis regardless of the absence of manifestations such as jaundice, ascites or known esophageal varices: abnormal liver function tests with or without history of chronic alcoholism. (See Hepatitis and Jaundice below.) Include Gaucher's, Hemochromatosis, Von Gierke's, Wilson's, diseases.

g. *Diseases*: Diseases of spleen, and chronic disease of the stomach or intestine or a history thereof, including such diseases as regional ileitis, ulcerative colitis, and diverticulitis, megacolon, regional enteritis, malabsorption sydromes, symptomatic diverticulosis, adult celiac disease, lactose intolerance. Irritable colon of more than mild occurrence and symptoms.—Amyloidosis—

h. *Enlargement.* Chronic enlargement of the liver; chronic enlargement of the spleen, if marked, until proven idiopathic.

i. *Fistula.* Fistula or sinuses from visceral or other lesions or following operation.

j. *Gastritis.* Chronic severe hypertrophic gastritis.

k. *Hepatitis.* Hepatitis within the preceding 6 months, or persistence of symptoms after a reasonable period of time with impairment of liver function.

l. *Hernia.* Hernia of any external variety. History of operation for hernia within the past 60 days.
m. *Jaundice.* Jaundice or history of recurrent jaundice.
n. *Obstruction.* Intestinal obstruction, or history of more than one episode if either occurred during preceding 5 years, or if resulting condition remains which produces significant symptoms or requires treatment.
o. *Pancreatitis,* or history.
p. *Peritonitis.* Chronic peritonitis or peritoneal adhesions.
q. *Resections.* Gastric or bowel resection; resection of peptic ulcer; gastroenterostomy, with chronic sequelae and if less than 6 months.
r. *Scars.* Abdominal scars, regardless of cause, which show hernial bulging or which interfere with movements. Scar pain, if severe or causing persistent or recurring complaints or if associated with disturbance of function of abdominal wall or contained viscera.
s. *Splenectomy.* Splenectomy, except when accomplished for the following:
(1) Trauma.
(2) Causes unrelated to disease of the spleen.
(3) Hereditary spherocytosis.
(4) Disease involving the spleen when followed by correction of the condition for a period of at least 2 years.
t. *Ulcers.* Symptomatic Ulcer of the stomach or duodenum.

9. *The Anus and Rectum*
a. *Amoebiasis.* Amoebiasis, uncinariasis.
b. ***Fissure.*** **Fissure of the anus or pruritus ani.**
c. *Fistula.* Fistula in ano or ischiorctal abcess.
d. *Hemorrhoids.* External hemorrhoids sufficient in size to produce marked symptoms; internal hemorrhoids, if large or accompanied by hemorrhage, or protruding intermittently or constantly.
e. *Incontinence.* Incontinence of feces.
f. *Proctitis.*
g. *Stricture.* Stricture or prolapse of the rectum.

10. *The Endocrine System*
a. *Addison's Disease*
b. *Adiposogenital Dystrophy.* Frohlich's syndrome.
c. *Diabetes Insipidus.* and inappropriate ADH syndrome.
d. *Diabetes Mellitus,* if on any medication or evidence of glycosuria. Renal glycosuria is not disqualifying.
e. *Gigantism.* Gigantism or acromegaly; Cushing's syndrome; other diseases because of a disorder of the pituitary gland.
f. *Goiter.* Toxic goiter; thyrotoxicosis; simple goiter or thyroid adenoma with pressure symptoms, hypothyroidism or hyperthyroidism.
g. *Gout,* symptomatic.
h. *Hyperinsulinism.* Symptomatic hyperinsulinism.
i. *Parathyroidism.* Hyperparathyroidism and hypoparathyroidism when the diagnosis is supported by adequate laboratory studies.
j. *Hypopituitarism.* Severe hypopituitarism.
k. *Nutritional Deficiency.* Nutritional deficiency diseases (including sprue, beriberi, pellagra, and scurvy).
l. Pancreatitis, pancreatic cyst.

11. *The Genitourinary System*
a. *Genitourinary Defects of Females*
(1) *Cysts.* Ovarian cysts if persistent and likely to require medical attention.
(2) *Dysmenorrhea.* Dysmenorrhea, incapacitating to a degree which necessitates recurrent absences of more than a few hours from routine activities.
(3) *Endometriosis.* Endometriosis or history thereof, and likely to require medical or surgical attention.
(4) *Growths.* New growths of the genitalia except single uterine fibroid, subserous, asymptomatic, less than 3 centimeters in diameter, with no general enlargement of the uterus.
(5) *Infections.* Bartholinitis; cervicitis, manifested by leukorrhea;

oophoritis, *salpingitis*; or skeneitis.

(6) *Menopausal Syndrome.* Menopausal syndrome, either physiologic or artificial, if manifested by more than mild constitutional or mental symptoms; and all cases of artificial menopause if less than 13 months have elapsed since cessation of menes. In all cases of artificial menopause, the clinical diagnosis will be reported.

(7) *Menstrual Cycle.* Irregularities of the menstrual cycle including menorrhagia if excessive; i.e., 10 days, metrorrhagia if excessive; polymenorrhea; amenorrhea, except as noted under menopausal syndrome above.

(8) *Pregnancy*

(9) *Uterus*

(a) *Cervical Defects.* Cervical polyps, cervical ulcer, or marked cervical erosion.

(b) *Endocervicitis.* Endocervicitis if more than mild.

(c) *Uterine dysplasia.*

(10) *Vagina. Acute or chronic vaginitis.* Vaginal dysplasia, mucosal leukoplakia until biopsied and negative report, cystocele, rectocele, procidentia.

(11) *Vulva.* Acute or chronic vulvitis. Leukoplakia, until biopsied and negative report.

(12) Results of PAP test which are Class II, or higher, must be assessed by biopsy.

b. *Genitourinary Defects of Males*

(1) *Epispadias.* Epispadias or hypospadias, if accompanied by infection of the urinary tract.

(2) *Infantile Organs.* Infantile genital organs, if interferes with urinary function.

(3) *Penis.* Amputation of the penis, if the resulting stump is not sufficient to permit normal micturation without infection.

(4) *Prostate.* Hypertrophy, abscess, or chronic infection of the prostate gland, with systemic symptoms and gross urinary retention.

(5) *Testicles:*

(a) *Enlargement.* Undiagnosed enlargement or mass of testicle or epididymus.

(b) *Non-Descent.* Undescended testicle.

(c) *Orchitis.* Chronic orchitis or epididymitis.

(6) *Varicocele.* Varicocele or hydrocele, if large or painful.

c. *Genitourinary Defects Common to Both Sexes*

(1) *Albuminuria.* Proteinuria under normal activity (at least 48 hours post-strenuous exercise) if greater than 160 mgm per 24 hours. Until assessed as not indicative of kidney or bladder disease.

(2) *Calculi.* Vesicular or Renal calculi formation within the preceding 12 months.

(3) *Cystitis.* Acute or chronic cystitis.

(4) *Enuresis.* Enuresis which is habitual or persistent.

(5) *Hematuria.* Hematuria. cylindruria, hemoglobinuria with other findings indicative of renal tract disease.

(6) *Kidney:*

(a) *Abnormalities.* Absence of one kidney; horse shoe kidney; Suggested Values Serum BUN > 10–20 mg %, creatinine > 0.6–1.2 mg% (Todd-Sanford) or above normal range for laboratory used. Failure to concentrate urine (persistent specific gravity < 1.003).

(b) *Cystic.* History of cystic or polycystic kidney.

(c) *Hydronephrosis.* Hydronephrosis or pyonephrosis.

(d) *Infection.* Acute or chronic infections of the kidney.

(e) *Nephritis.* Acute or chronic nephritis.

(f) *Pyelitis.* Pyelitis; pyelonephritis.

(7) *Porphyria;* Methhemoglobinuria.

(8) *Pyuria*

(9) *Reiter's Disease*

(10) *Urethra.* Stricture of the urethra. Acute or chronic urethritis. Urinary fistula.

(11) *Urine.* Enuresis; incontinence or retention of urine. Until underlying cause corrected or determined and assessed.

(12) *Venereal Disease*

(a) *Active Infection.* Any active venereal infection, acute or chronic, or any active infectious process resulting therefrom.

(b) *Residuals.* Complications and permanent residuals of venereal disease, if progressive, or if of such nature as to interfere with the satisfactory performance of duty.

(c) *Syphilis.* Syphilis or Neurosyphilis of any form (general paresis, Charcot's disease, tabes dorsalis, meningovascular syphilis). A history of syphilis adequately treated, and without evidence of residuals is not a cause for rejection. A negative serological test will be accepted as satisfactory evidence of freedom from syphilis in the absence of clinical signs.

12. *The Extremities*

a. *Amputation.* Amputation of any portion of a limb (see paragraph i(1) fingers); or resection of a joint; or absence of the toes which would preclude the ability to run, walk or balance oneself.

b. *Ankylosis.* Complete or partial ankylosis that interferes with required function or has residual, incapacitation symptoms.

c. *Arthritis*:

(1) *Active.* Active or subacute arthritis, including Marie-Strumpell type, regardless of control; or history of progressive arthritis.

(2) *Rheumatoid.* Clinical, history of rheumatoid arthritis (atrophic arthritis).

d. *Atrophy.* Atrophy of the muscles of any part, contracture, or muscle paralysis, if progressive or of sufficient degree to interfere with function.

e. *Bone curvature.* Excessive curvature of long bone, if precludes normal job performance.

f. *Derangement.* Chronic synovitis; floating or torn cartilage; osteochondritis dissecans; or other internal derangement in a joint.

g. *Dislocations.* Old dislocations, unreduced or partially reduced. Reduced dislocations with incomplete restoration of function. History of recurrent dislocations of major joints. Relaxed articular ligaments permitting of frequent voluntary or involuntary displacement. (Instabilities-Subluxation)

h. *Foot and Ankle.* Any condition severe enough that would or could prevent the fulfillment of job requirements such as:

(1) *Absence*

(2) *Bunions*

(3) *Claw Toes*

(4) *Clubfoot*

(5) *Corns.* Corns or calluses on the sole of the foot when they are tender or painful.

(6) *Flatfoot.* Flatfoot when accompanied with symptoms of weak foot or when the foot is weak on test. Spastic flatfoot. Pronounced cases of flatfoot attended with decided eversion of the foot and marked bulging of the inner border, due to inward rotation of the astragalus, if symptomatic.

(7) *Hallux Valgus.* Overriding or superposition of any of the toes.

(8) *Hammer Toe.* If interferring with walking.

(9) *Hyperdactylia.* Healed disease, injury, or deformity including hyperdactylia which precludes running, is accompanied by disabling pain or which prohibits wearing of safety footwear.

(10) *Pes Cavus.* Pes Cavus with contracted plantar fascia, dorsiflexed toes, tenderness under the metatarsal heads, and callosity under the weight bearing areas.

(11) Fractures. Ununited fractures; malunited fractures and fractures with shortening or callus formation; united fractures with incomplete restoration of function.

i. *Hand and Fingers.* Any condition severe enough, that would or could prevent the fulfillment of job requirements such as:

(1) *Absence or Loss.* Absence of a hand or any portion thereof except for fingers as noted herein. Total loss of more than one phalanx of the right index finger. Loss of the terminal and middle phalanges of any two fingers on the same hand. Must have ability to grasp ladder rungs and tie life jackets.

(2) *Flexion.* Permanent flexion or extension of one or more fingers, as well as irremediable loss of motion of these parts. Mutilation of either thumb to such an extent as to produce material loss of flexion, apposition, or strength of member and ability to grasp.

(3) *Scars.* Scars and deformities of the fingers and/or hand which impair circulation, are symptomatic.

(4) *Web Fingers.* Adherent or united fingers (web fingers).

(5) *Injury.* Injury of a bone or joint within the preceding 6 weeks, without fracture or dislocation, of more than a minor nature. Healed injury of the upper or lower extremities with residual weakness or symptoms. Severe sprains.

j. *Knee, Leg, Thigh, and Hip*: Any conditions severe enough that would or could prevent the fulfillment of job requirements such as:

(1) *Cartilage.* Dislocated semilunar cartilage, loose or foreign bodies within the knee joint.

(a) Within the preceding 6 months.

(b) Six months or more have elapsed since operation without recurrence, and there is instability of the knee ligaments in lateral or antero-posterior directions in comparison with the normal knee, or abnormalities noted on X-ray; there is significant atrophy or weakness of the thigh musculature in comparison with the normal side, there is not acceptable active motion in flexion and extension, or there are other symptoms of internal derangement.

(2) *Knock-knee.* Knock-knee when the gait is clumsy or ungainly, or when subjective symptoms of weakness are present.

(3) *Unstable Joint.* History or physical findings of an unstable or internally deranged joint causing disabling pain or seriously limiting function. Individuals with episodes of buckling or locking of the knee who have not undergone satisfactory surgical correction or if, subsequent to surgery, there is evidence of more than mild instability of the knee ligaments in lateral and anteroposterior directions in comparison with the normal knee, weakness or atrophy of the thigh musculature in comparison with the normal side, or if the individual requires medical treatment of sufficient frequency to interfere with the performance of occupation.

(4) *Osgood Schlatter's Disease.* Symptomatic within one year.

k. *Limitation of Motion.* If the joint ranges of motion are less than the measurements listed.

(1) *Ankle*

(a) Dorsiflexion to 10°.

(b) Planter flexion to 10°.

(2) *Elbow*

(a) Flexion to 100°.

(b) Extension to 15°.

(3) *Fingers.* Inability to clench fist, pick up a pin or needle, and grasp an object.

(4) *Hand.* Pronation to the first quarter of the normal arc. Supination to the first quarter of the normal arc.

(5) *Hip*

(a) Flexion to 90°.

(b) Extension to 10° (beyond 0).

(6) *Knee*
(a) Full extension.
(b) Flexion to 90°.

(7) *Shoulder*
(a) Forward elevation to 90°.
(b) Abduction to 90°.

(8) *Toes.* Stiffness which interferes with walking, standing, running, or jumping.

(9) *Wrists.* A total range of 15° (extension plus flexion).

l. *Neuralgias.* Chronic neuralgias, particularly sciatica. Pain in lower back or leg which is intractable and disabling to the degree of interfering with walking, running, and weight bearing.

m. *Osteomyelitis.* Active or recurrent osteomyelitis of any bone. History of a single attack of osteomyelitis unless successfully treated 3 or more years previously without subsequent recurrence of disqualifying sequelae as demonstrated by both clinical and x-ray evidence. History of an attack of hematogenous osteomyelitis.

n. *Surgery.* Surgical procedures involving joints, unless at least a 6 months period since operation has elapsed and full function has been restored and the joint stable. (See the article concerning knee surgery.) Mechanical prosthetic replacements are disqualifying.

13. *The Spine and Other Musculoskeletal*

a. *Abscess.* Abscess of the spinal column or its vicinity.

b. *Arthritis.* Active arthritis processes from any cause; partial or complete.

c. *Caries.* Vertebral caries (Pott's disease). TB of the spine.

d. *Coccydynia.* Coccydynia of a chronic type associated with acute angulation of the coccyx.

e. *Curvature.* Deviation or curvature of spine from normal alignment. Congenital malformation of structure, or function (scoliosis, kyphosis, or lordosis, spina bifida and occulta, spondylolysis, spondylolisthesis, etc.) if (include angulation & ROM measurements in exam report):

(1) Mobility and weight bearing power is poor.

(2) Normal function is impaired or likely to be so.

(3) Symptomatic.

(4) If cardio-pulmonary function is compromised.

f. *Fracture*

(1) *Coccyx.* Fracture of the coccyx.

(2) *Vertebrae.* Fracture or dislocation of the vertebrae except for healed fractures in which no adverse residuals such as significant wedging, malalignment, or abnormal neurological findings are present to a degree which, in the opinion of the medical examiner, would preclude satisfactory performance of occupational requirements.

g. *Gait.* Abnormalities of, if precludes functional requirements being met (see #18).

h. *Herniation.* Herniation of intervertebral disc (ruptured nucleus pulposus) history of operation for this condition.

i. *Osteomyelitis.* See Extremities.

j. *Pain.* History of chronic recurrent low-back pain, especially when intractable and disabling to the degree of interfering with walking, running, and weight-bearing or unable to perform functional job requirements.

k. *Paralysis.* Residual paralysis (as sequela to poliomyelitis) resulting in impaired function.

l. *Pelvis.* Malformation and deformities of the pelvis sufficient to interfere with function. Healed fracture of the pelvic bones with associated syptoms which preclude the satisfactory completion of job requirements.

m. *Sacroiliac.* Diseases of the sacroiliac or lumbosacral joints of a chronic type and associated with pain referred to the lower extremities muscular spasm, postural deformities, and/or limitation of motion in the lumbar region of the spine.

n. Surgery, any surgery of vertebral column or spinal cord.

14. *The Skin and Lymphatics*

a. *Acne.* Severe pustular - cystic acne

which would interfere with the wearing of proper clothing. Particularly disqualifying for stewards.

b. *Actinomycosis*

c. *Allergic Dermatoses.* severe, incapacitating.

d. *Cysts*:

(1) *Non-Pilonidal.* Cysts other than pilonidal, of such a size or location as to interfere with the normal wearing of protecting clothing.

(2) *Pilonidal.* Pilonidal cyst or sinus if evidenced by presence of readily palpable tumor mass or if there is a history of inflammation or of purulent discharge.

e. *Dermatitis*:

(1) *Atopic Dermatitis.* Atopic dermatitis with active or residual lesions in characteristic areas (face and neck, antecubital and popliteal fossae, occasionally wrists and hands), or history thereof, if requiring chronic treatment and history of incapacitating episodes.

(2) *Dermatitis factitia*

(3) *Dermatitis herpetiformis*

f. *Eczema.* Severe Eczema of long standing or which is resistant to treatment; allergic dermatosis, if severe.

g. *Elephantiasis*

h. *Epidermolysis Bullosa.* Epidermolysis bullosa; pemphigus.

i. *Fungus Infections.* Fungus infections, systemic or superficial types, if extensive and not amenable to treatment.

j. *Furunculosis.* Extensive, recurrent, or chronic furunculosis

k. *Vermin Infestation.* As a general rule, applicants who are extensively infested with vermin, and filthy in person and clothing shall be rejected.

l. *Ichthyosis.* Severe ichthyosis.

m. *Impetigo.* Chronic impetigo; sycosis; carbuncle.

n. *Leprosy.* Active leprosy.

o. *Lesions.* Lupus vulgaris; other tuberculous skin lesions.

p. *Leukemia Cutis.* Leukemia cutis; mycosis fungoides; Hodgkin's disease.

q. *Lichen Planus.* Chronic lichen planus.

r. *Lupus Erythematosus.* Lupus erythematosus (acute, subacute, or chronic; discoid or generalized) or any other dermatosis aggravated by sunlight.

s. *Psoriasis.* Extensive psoriasis or history thereof.

t. *Scars.* Scars which are so extensive, deep, or adherent that they interfere with muscular movements, or interfere with the wearing of safety equipment, or that show a tendency to break down and ulcerate.

u. *Scleroderma.* Diffuse type of scleroderma.

Tumors. Skin malignancies, (Melanoma). Basal and Squamous cell Epitheliomas, Nevi, vascular, and other erectile tumors if extensive, disfiguring, or exposed to constant pressure or irritation. Benign tumors of such a size or location as to interfere with the normal wearing of safety equipment.

w. *Urticaria*

x. *Warts.* Plantar warts on weight-bearing areas, if interferes with job functions.

y. *Xanthoma.* Xanthoma if disabling or accompanied by hypercholesterolemia or hyperlipemia.

15. *The Nervous System*

a. *Degenerative Disorders.* Degenerative disorders (multiple sclerosis, encephalomyelitis, cerebellar and Friedreich's ataxia, athetoses, Huntington's chorea, muscular atrophies and distrophies of any type, cerebral arteriosclertosis, parkinsonism, senility, mental retardation, etc.).

b. *Neurosyphilis.* Neurosyphilis of any form (general paresis, tabes doralis, meninogovascular syphilis).

c. *Paroxysmal Convulsive Disorders.* Paroxysmal convulsive disorders, disturbances of consciousness, including blackouts, seizures, rum fits, delirium tremens, and other mental syndromes associated with ethanolism or ethanol related nutritional deficiencies. e.g. Wernicke-Korsakoff Syndrome. All forms of psychomotor or temporal lobe epilepsy or history thereof except for seizures associated with toxic states or fever during childhood up to the age of 12.

Grand mal, petit mal, and psychomotor attacks, syncope, narcolepsy regardless of control, severe cluster headaches and severe migraine are disqualifying.

d. *Peripheral Nerves.* Peripheral nerve disorder (chronic or recurrent neuritis or neuralgia of any intensity which is periodically incapacitating, multiple neuritis, neurofibromatosis).

e. *Residuals*:
   (1) *Infection.* Residuals of infection (moderate and severe residuals of poliomyelitis, meningitis and abscesses, paralysis agitans, postencephalitic syndrome, Sydenham's chorea).
   (2) *Trauma.* Residuals of trauma (residuals of concussion or severe cerebral trauma, post-traumatic cerebral syndrome, incapacitating severe injuries to peripheral nerves).

f. *Spontaneous Subarachnoid Hemorrhage.* History of spontaneous subarachnoid hemorrhage, unless cause has been surgically corrected.

g. *Miscellaneous Disorders*:
   (1) Balance, disturbances of, also of gait, if precludes job function.
   (2) *Cerebrovascular Disease*
   (3) *Congenital Malformations.* Congenital malformations, including spina bifida, if associated with neurological manifestations and meningocele even if uncomplicated.
   (4) *Meniere's Disease*
   (5) *Motion Sickness.* Motion sickness, if to a disabling degree.
   (6) *Autoimmune Deficiency Syndrome (AIDS)*

16. *The Psyche*
   a. Drug Addiction
   b. Being under the influence of an unprescribed narcotic, barbiturate, amphetamine, hallucinogen, or alcohol at the time of examination.
   c. Having used an unprescribed Narcotic Schedule 1 or 2 substance other than marijuana within the preceding year.
   d. Having during any part of the past year a pattern of using a drug or chemical substance, including marijuana or alcohol, which would impair job effectiveness if continued aboard ship (e.g., reduce alertness or coordination or impair readiness for emergencies).
   e. Current need to use:
      (1) Methadone or a related drug
      (2) Disulfiram (Antabuse) or a related drug
      (3) Neuroleptic drugs (phenothiazines, butyrophenones, and related drugs)
      (4) Antidepressant drugs, tricyclics, MAO inhibitors, and related drugs
      (5) Antianxiety drugs (barbiturates, benzodiazepins, and related drugs)
   f. Having lost more than five days from regular activity during the last year because of psychiatric problems (regular activity may include employment, academic activity or housework.)
   g. Having been hospitalized within ten years for schizophrenic or affective disorder.
   h. Sleepwalking after age 12.
   i. Obvious mental retardation as evidenced by inability to comprehend and/or execute the ordinary activities of the physical examination.
   j. Personality disturbance as demonstrated by gross inappropriate behavior during the course of the physical examination and/or socially unacceptable behavior displayed toward the examining personnel; i.e., unwarranted hostility, aggressive behavior, abusiveness, withdrawal (in group setting).
   k. Evidence of previous aggressive behavior, i.e., knife or gunshot wound without satisfactory explanation.

17. *The Teeth*
   a. *Caries.* Carious teeth if numerous and severe and/or disease of the jaws or associated tissues which are not easily remediable and which will incapacitate the individual or prevent the satisfactory performance of occupation requirements.
   b. *Malocclusion.* Malocclusion that interferes with satisfactory incisal and/or masticatory function or proper phonation.
   c. *Oral Tissues.* Infections or chronic dis-

eases of the soft tissue of the oral cavity.

d. *Perforation.* Perforations from the oral cavity into the nasal cavity or maxillary sinus.

e. *Periodontoclasia.* Advanced and extensive periodontoclasia.

f. *Prosthesis.* Failure to have satisfactory prosthesis and restorations as for suitable mastication on regular fare.

g. *Subluxation.* Chronic subluxation of the mandible associated with pain not amenable to treatment.

Appendix B

REGULATIONS GOVERNING FOREIGN QUARANTINE
U.S. Public Health Service

Introduction

The U.S. Public Health Service administers foreign quarantine procedures at ports of entry under the control of the United States.

All vessels arriving at ports under the control of the United States are subject to public health inspection. Only the following vessels upon arrival are subject to *routine boarding* for quarantine inspection:

(1) vessels which have been in a smallpox-infected country in the 15 days prior to arrival;

(2) vessels which have been in a plague-infected country within 60 days prior to arrival; and

(3) vessels which have had on board *any of the following signs of illness* during the 15 days preceding arrival—

(a) A temperature of 100° F (38° C) or greater, which was accompanied or followed by any one or all of the following; rash, jaundice, glandular swelling; OR

(b) Diarrhea severe enough to interfere with work or normal activity; and

(c) Death, regardless of foregoing criteria.

Masters of vessels having illness aboard compatible with the above criteria must provide notification of the illness by radio through their agent to the quarantine station at the intended U.S. port of arrival.

Vessels arriving at ports under control of the United States are subject to sanitary inspection to determine whether measures should be applied to prevent the introduction, transmission, or spread of communicable diseases.

Specific public health laws, regulations, policies, and procedures may be obtained by contacting United States Quarantine Stations, United States Consulates, or the

Director, Quarantine Division
Bureau of Epidemiology
Center for Disease Control
U.S. Public Health Service
Atlanta, Georgia 30333

International Health Regulations (1969)*

THE UNITED STATES GOVERNMENT is a member of the World Health Organization (WHO) of the United Nations and is a signatory of the international health regulations, without reservations. Following are some of the pertinent articles that deal with quarantine requirements. See pp. App. B–4 to App. B–14 for copies of important forms that include: (1) a DERATTING CERTIFICATE and/or DERATTING EXEMPTION CERTIFICATE; (2) a MARITIME PUBLIC HEALTH DECLARATION; and (3) INTERNATIONAL CERTIFICATES OF VACCINATION (available as a booklet).

Article 54†

1. Every ship shall be either:
   (a) permanently kept in such a condition that it is free of rodents and the plaque vector; or
   (b) periodically deratted.

2. A Deratting Certificate or a Deratting Exemption Certificate shall be issued only by the health authority for a port approved for that

*Adopted by the Twenty-second World Health Assembly in 1969 and amended by the Twenty-sixth World Health Assembly in 1973. (Source: INTERNATIONAL HEALTH REGULATIONS—1969, Second Annotated Edition. Published by the World Health Organization, Geneva. 1974.)

† (a) Deratting Certificates and Deratting Exemption Certificates are valid for a maximum of six months but, under certain conditions, the validity of such certificates may be extended only once by a period of one month. (*Off. Rec. Wld Hlth Org., 79*, 502; *87*, 404; *95*, 482)

(b) If inspection of a ship, carried out at the end of the period of validity of its Deratting Exemption Certificate, proves that the ship is still entitled to a Deratting Exemption Certificate, a new certificate should be issued. Periodic deratting of ships is not necessary if inspection proves that the ship is entitled to a Deratting Exemption Certificate. (*Off. Rec. Wld Hlth Org., 87*, 405)

(c) There is no provision in the Regulations for endorsement by a port health authority of a valid Deratting Certificate or Deratting Exemption Certificate to the effect that inspection of the ship has confirmed the accuracy of the information given on the certificate. (*Off. Rec. Wld Hlth Org., 79*, 502)

purpose under Article 17. Every such certificate shall be valid for six months, but this period may be extended by one month for a ship proceeding to such a port if the deratting or inspection, as the case may be, would be facilitated by the operations due to take place there.

3. Deratting Certificates and Deratting Exemption Certificates shall conform with the model shown on pp. App. B–5 to App. B–6.

4. If a valid certificate is not produced, the health authority for a port approved under Article 17, after inquiry and inspection, may proceed in the following manner:

(a) If the port has been designated under paragraph 2 of Article 17, the health authority may derat the ship or cause the deratting to be done under its direction and control. It shall decide in each case the technique which should be employed to secure the extermination of rodents on the ship. Deratting shall be carried out so as to avoid as far as possible damage to the ship and to any cargo and shall not take longer than is absolutely necessary. Wherever possible deratting shall be done when the holds are empty. In the case of a ship in ballast, it shall be done before loading. When deratting has been satisfactorily completed, the health authority shall issue a Deratting Certificate.

(b) At any port approved under Article 17, the health authority may issue a Deratting Exemption Certificate if it is satisfied that the ship is free of rodents. Such a certificate shall be issued only if the inspection of the ship has been carried out when the holds are empty or when they contain only ballast or other material, unattractive to rodents, of such a nature or so disposed as to make a thorough inspection of the holds possible. A Deratting Exemption Certificate may be issued for an oil tanker with full holds.

5. If the conditions under which a deratting is carried out are such that, in the opinion of the health authority for the port where the operation was performed, a satisfactory result cannot be obtained, the health authority shall make a note to that effect on the existing Deratting Certificate.

Article 84

1. The Master of a seagoing vessel making an international voyage, before arrival at its first port of call in a territory, shall ascertain the state of health on board, and, except when a health administration does not require it, he shall, on arrival, complete and deliver to the health authority for that port a Maritime Declaration of Health which shall be countersigned by the ship's surgeon if one is carried.

2. The Master, and the ship's surgeon if one is carried, shall supply any information required by the health authority as to health conditions on board during the voyage.

3. A Maritime Public Health Declaration shall conform with the model shown on pp. App. B–7 to App. B–8.

4. A health administration may decide:
(a) either to dispense with the submission of the Maritime Declaration of Health by all arriving ships; or
(b) to require it only if the ship arrives from certain stated areas, or if there is positive information to report.

In either case, the health administration shall inform shipping operators.

Article 92

1. Special treaties or arrangements may be concluded between two or more States having certain interests in common owing to their health, geographical, social or economic conditions, in order to facilitate the application of these Regulations, and in particular with regard to:

(a) the direct and rapid exchange of epidemiological information between neighboring territories;

(b) the health measures to be applied to international coastal traffic and to international traffic on inland waterways, including lakes;

(c) the health measures to be applied in contiguous territories at their common frontier;

(d) the combination of two or more territories into one territory for the purposes of any of the health measures to be applied in accordance with these Regulations;

(e) arrangements for carrying infected persons by means of transport specially adapted for the purpose.

2. The treaties or arrangements referred to in paragraph 1 of this Article shall not be in conflict with the provisions of these Regulations.

3. States shall inform the Organization of any such treaty or arrangement which they may conclude. The Organization shall send immediately to all health administrations information concerning any such treaty or arrangement.

Article 93

1. These Regulations, subject to the provisions of Article 95 and the exceptions hereinafter provided, replace, as between the States bound by these Regulations and as between these States and the Organization, the provisions of the following existing International Sanitary Conventions, Regulations and similar agreements:

(a) International Sanitary Convention, signed in Paris, 3 December 1903;

(b) Pan American Sanitary Convention, signed in Washington, 14 October 1905;

(c) International Sanitary Convention, signed in Paris, 17 January 1912;

(d) International Sanitary Convention, signed in Paris, 21 June 1926;

(e) International Sanitary Convention for Aerial Navigation, signed at The Hague, 12 April 1933;

(f) International Agreement for dispensing with Bills of Health, signed in Paris, 22 December 1934;

(g) International Agreement for dispensing with Consular Visas on Bills of Health, signed in Paris, 22 December 1934;

(h) Convention modifying the International Sanitary Convention of 21 June 1926, signed in Paris, 31 October 1938;

(i) International Sanitary Convention, 1944, modifying the International Sanitary Convention of 21 June 1926, opened for signature in Washington, 15 December 1944;

(j) International Sanitary Convention for Aerial Navigation, 1944; modifying the International Sanitary Convention of 12 April 1933, opened for signature in Washington, 15 December 1944;

(k) Protocol of 23 April 1946 to prolong the International Sanitary Convention, 1944, signed in Washington;

(l) Protocol of 23 April 1946 to prolong the International Sanitary Convention for Aerial Navigation, 1944, signed in Washington;

(m) International Sanitary Regulations, 1951, and the Additional Regulations of 1955, 1956, 1960, 1963, and 1965.

2. The Pan American Sanitary Code, signed at Habana, 14 November 1924, remains in force with the exception of Articles 2, 9, 10, 11, 16 to 53 inclusive, 61, and 62, to which the relevant part of paragraph 1 of this Article shall apply.

FORMS

(For sources of all forms, refer to page numbers shown below)

CDC 4.452
8-75

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

DERATTING CERTIFICATE (a) — CERTIFICAT DE DERATISATION (a)
DERATTING EXEMPTION CERTIFICATE (a) — CERTIFICAT D'EXEMPTION DE LA DERATISATION (a)

issued in accordance with Article 54 of the International Health Regulations

Délivré conformément à l'article 54 du Règlement Sanitaire International (1969)

(Not to be taken away by Port Authorities.)—(Ce certificat ne doit pas être retiré pas les autorités portuaires.)

PORT OF
PORT DE _____ *Date* _____
Date

THIS CERTIFICATE records the inspections and { *deratting* / *exemption* } (a) *at this port and on the above date*

LE PRESENT CERTIFICAT atteste l'inspection et { la dératisation / l'exemption } (a) en ce port et à la date ci-dessus

of the { *ship* / *inland navigation vessel* } (a) _____
du navire

of / de _____ { *net tonnage for a sea-going vessel* / tonnage net dans le cas d'un navire de haute mer }
_____ { *tonnage for an inland navigation vessel* / tonnage dans le cas d'un navire de navigation interieure } (a) (f)

At the time of { *inspection* / *deratting* } (a) *the holds were laden with* _____ *tons of* _____ *cargo*

Au moment de { l'inspection / la dératisation } (a) les cales étaient chargées de _____ tonnes de _____ cargaison

COMPARTMENTS(b)	*RAT INDICATIONS* TRACES DE RATS (c)	*RAT HARBORAGE* REFUGES A RATS		*DERATTING*—DERATISATION					COMPARTIMENTS(b)
				by fumigation—par fumigation *Fumigant*—Gaz utilisé *Hours exposure*—Exposition (heures)			*by catching, trapping, or poisoning* par capture ou poison		
		discovered trouvés (d)	*treated* supprimés	*Space (cubic feet)* Espaces (mètres cubes)	*Quantity used* Quantités employées (e)	*Rats found dead* Rats trouvés morts	*Traps set or poisons put out* Pièges ou poisons mis	*Rats caught or killed* Rats pris ou tués	
Holds 1.									Cales 1.
— 2.									— 2.

— 3.									— 3.
— 4.									— 4.
— 5.									— 5.
— 6.									— 6.
— 7.									— 7.
Shelter deck space.									Entrepont
Bunker space.									Soute à charbon
Engineroom and shaft alley									Chaufferies, tunnel de l'arbre
Forepeak and storeroom									Peak avant et magasin
Afterpeak and storeroom									Peak arrière et magasin
Lifeboats									Canots de sauvetage
Charts and wireless rooms									Chambre des cartes, T. S. F.
Galley									Cuisines
Pantry									Cambuses
Provision storerooms									Soute à vivres
Quarters (crew)									Postes (équipage)
Quarters (officers)									Chambres (officiers)
Quarters (cabin passengers)									Cabines (passagers)
Quarters (steerage)									Postes (émigrants)
Saloon									Salon
Messrooms									Salle à manger de l'équipage
Refrigerated storerooms									Soute à vivres réfrigérées
TOTAL									TOTAL

For copies of this form, write to:
Quarantine Division,
Center for Disease Control,
U.S. Public Health Service,
Atlanta, Georgia 30333

(a) *Strike out the unnecessary indications.*—Rayer les mentions inutiles.
(b) *In case any of the compartments enumerated do not exist on the ship or inland navigation vessel, this fact must be mentioned.*—Lorsqu'un des compartiments énumérés n'existe pas sur le navire, on devra le mentionner expressément.
(c) *Old or recent evidence of excreta, runs, or gnawing.*—Traces anciennes ou récentes d'excréments, de passages ou de rongements.
(d) *None, small, moderate, or large.*—Néant, peu, passablement ou beaucoup.
(e) *State the weight of sulphur or of cyanide salts or quantity of HCN acid used.*—Indiquer les poids de soufre ou de cyanure ou la proportion d'acide cyanhydrique.
(f) *Specify whether applies to metric displacement or any other method of determining the tonnage*—Spécifier s'il s'agit de déplacement métrique ou, sinon, de quel autre tonnage il s'agit.

RECOMMENDATIONS MADE.—OBSERVATIONS.—*In the case of exemption, state here the measures taken for maintaining the ship or inland navigation vessel in such a condition that it is free of rodents and the plague vector.* Dans le cas d'exemption, indiquer ici les mesures prises pour que le navire soit maintenu dans des conditions telles qu'il n'y ait à bord ni rongeurs, ni vecteurs de la peste.

Seal, name, qualification, and signature of the inspector.—Cachet, nom, qualité et signature de l'inspecteur.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333

FORM APPROVED
OMB NO. 68-R0439

MARITIME PUBLIC HEALTH DECLARATION

(SEE INSTRUCTIONS ON REVERSE SIDE)

RADIO CALL SIGN	NAME OF VESSEL

I. ALL VESSELS REQUESTING RADIO PRATIQUE INCLUDE THIS INFORMATION IN RADIO REQUEST

A. Itinerary for past 15 days or since last port under control of the U.S., whichever is shorter. Enter last port first.

Port City/Country	Date of Departure	Port City/Country	Date of Departure

For copies of this form, write to:
Quarantine Division,
Center for Disease Control,
U.S. Public Health Service,
Atlanta, Georgia 30333

	NO	YES
B. Were any persons ill during past 15 days or since last U.S. Port (whichever is shorter)?	☐	☐

Illness to be reported:

1. Temperature of 100°F (38°C) or greater (a) which persisted for 2 days or more; or (b) which was accompanied or followed by any one or all of the following: rash, jaundice, glandular swelling.
2. Diarrhea severe enough to interfere with work or normal activity.

C. Was this vessel in a plague infected country since its last U.S. Port?	☐	☐
D. If answer to C is yes, was vessel precleared for plague purposes when last in plague country?	☐	☐

II. COMPLETE THIS SECTION BUT DO NOT INCLUDE IN RADIO REQUEST FOR PRATIQUE

Crew		Passengers		I certify the foregoing statements are true and to the best of my knowledge and belief, the vessel, passengers, officers, crew, and cargo conform, except as indicated above, to the applicable Quarantine Regulations and Laws of the United States.	
No. of U.S. Citizens	No. of Aliens	No. of U.S. Citizens	No. of Aliens	Signature of Master	Date

III. THIS SECTION NOT FOR VESSEL USE

I	D			B		C		T/S		TV
	M	D	Y	H	M	H	M	H	M	
										☐

CDC 4.573 (F.HSM 13.19)
3-78

INSTRUCTIONS

MARITIME PUBLIC HEALTH DECLARATION. A vessel subject to routine public health inspection entering a port under the control of the United States is required to complete Sections I and II on Page 1 prior to arrival. Upon arrival, the completed form (and a copy of the radio message, if radio pratique was requested) will be given to the public health inspector or the vessel's agent.

RADIO PRATIQUE. Radio pratique is public health clearance by radio, based upon information received from the vessel prior to its arrival in port. Radio pratique is available at all U.S. ports. A vessel granted radio free or provisional pratique for public health may proceed directly to berth and begin normal business activities. The granting of radio pratique does not exempt a vessel from control measures or public health inspection subsequently deemed necessary or from the requirements of other government agencies.

A vessel which does not request radio pratique will undergo complete inspection in accordance with normal port procedures.

To request radio pratique, a vessel will transmit to its agent a brief message containing answers to Items A, B, C, and if applicable, D in Section I and the agent will inform the designated public health office during normal business hours, between 4 and 72 hours prior to the vessel's arrival. For circumstances in which illnesses occur aboard a vessel subsequent to the vessel's radio pratique request, the vessel master must notify the agent immediately. The agent will notify the designated public health office at once.

The radio pratique request should include:

1. Vessel's radio call sign.
2. Vessel's itinerary for the 15 days prior to arrival.
3. One of two codes:
   a. RPR-AIN (for Radio Pratique Requested – All Items Negative) – if items B and C on the Declaration are negative, or
   b. RPR-AINX (for Radio Pratique Requested – All Items Negative Except) – if Item B and/or C on the Declaration is yes, give Item letter(s).

Example of request: "KXYN Pto La Cruz 7/1/72 RPR-AIN"
The vessel is identified by the radio call sign KXYN. The vessel has been in Pto La Cruz only (departure date July 1, 1972) during the last 15 days. Radio pratique is requested – Items B and C are negative.

Example of request: "KXYN Pto La Cruz 7/1/72 RPR-AINX-B"
The vessel is identified by the radio call sign KXYN. The vessel has been in Pto La Cruz only (departure date July 1, 1972) during the last 15 days. Radio pratique is requested – Item C is negative – Item B is entered because there is illness on board. The ill person(s) should be readily available for inspection upon arrival.

Any illness which occurs after radio pratique is requested must be reported immediately through the agent to the public health office having jurisdiction at the U.S. port of entry where the vessel is first destined.

A vessel diverted to another U.S. port after requesting radio pratique should resubmit the request through its agent to the public health office responsible for the port to which it is diverted.

The Master should insure that the vessel is maintained in a rat-free and sanitary condition.

SECTION I

Item A — Include last U.S. port if within 15 days.

Item B — Enter "X" in appropriate box to indicate yes or no.
Illness to be reported: crew members and passengers (including those who have disembarked) who have, or have had, any of the following during the past 15 days or since the last U.S. port (whichever is shorter):

1. Temperature of 100°F (38°C) or greater
   (a) which was accompanied or followed by any one or all of the following: rash, jaundice, glandular swelling; OR
   (b) which persisted for two days or more
2. Diarrhea severe enough to interfere with work or normal activity.

Item C — Enter "X" in appropriate box to indicate yes or no.

Item D — Enter "X" in appropriate box to indicate yes or no.

SECTION II

Enter the number of crew members and passengers according to whether they are U.S. citizens or aliens.

The Declaration must be signed by the Master.

All cats, dogs, monkeys, and psittacine birds must remain on board until released for entry by an authorized official. Contact a public health inspector for rodent inspection if Deratting/Deratting Exemption Certificate is expired or if renewal is required before the next port.

HSM 13.19 (CDC) REV. 5-72 (BACK)

FOLD HERE TO PLACE WITH PASSPORT

INTERNATIONAL CERTIFICATES OF VACCINATION

AS APPROVED BY

THE WORLD HEALTH ORGANIZATION

(EXCEPT FOR ADDRESS OF VACCINATOR)

CERTIFICATS INTERNATIONAUX DE VACCINATION

APPROUVÉS PAR

L'ORGANISATION MONDIALE DE LA SANTÉ

(SAUF L'ADRESSE DU VACCINATEUR)

TRAVELER'S NAME—NOM DU VOYAGEUR

ADDRESS—ADRESSE (Number—Numéro) (Street—Rue)

(City—Ville)

(County—Département) (State—État)

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

PHS—731 (REV. 9-77)

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

Stock No. 017–001–00399–9

Booklet: Part 1 of six related pages (App. B–9 to App. B–14)

A free single copy of the material on pp. App. B–9 to App. B–14 is available as a booklet (PHS–731) from the quarantine epidemiologists of State health departments.

Sales copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

Appendix B

INSTRUCTIONS TO TRAVELERS

International Certificates of Vaccination or Revaccination are official statements verifying that proper procedures have been followed to immunize you against a quarantinable disease which could be a threat to the United States and other countries. The Certificates are essential in permitting uninterrupted international travel. THEY MUST BE COMPLETE AND ACCURATE IN EVERY DETAIL, or you may be detained at international ports of entry.

Certain immunizations are required by the countries; other immunizations and preventive measures are sometimes advisable, depending upon the traveler's age, previous immunization status, and the nature and duration of travel. Yellow fever immunization may be given only by a designated Yellow Fever Vaccination Center. Other immunizations may be given by any licensed physician.

When your itinerary is complete, your local or State Health Department, private physician, travel agency, or international air line can furnish you information on immunizations or prophylaxis required or recommended for your trip. Your local or State Health Department can inform you where in your area you may be vaccinated against yellow fever and have your Certificates validated.

There is a risk of acquiring *MALARIA* when traveling to parts of the Caribbean, Central and South America, Africa, the Middle East, the Indian subcontinent, and the Far East. You are strongly advised to seek information from your local or State Health Department or private physician concerning the need for protection against malaria and for instructions on how the prophylactic drugs should be taken.

If you need medications regularly, take an adequate supply with you. Because of possible serious consequences to your health, do NOT buy medications "over the counter" unless you are familiar with the product. Should you need medical assistance, the American Embassy or Consulate usually can provide names of physicians or hospitals.

How to Complete Your International Certificates of Vaccination

1. Enter your name and address on the cover of the booklet before presenting it to your physician.

2. On the Certificates required for your travel, print your name on the first line; sign your name on the second line; indicate your sex; and indicate your date of birth in the following sequence: day, month, year. Example: 5 June 1956.

3. It is your responsibility to have the Certificates validated with an "approved stamp." THE CERTIFICATES ARE NOT VALID WITHOUT AN "APPROVED STAMP."

INSTRUCTIONS TO PHYSICIANS

INFORMATION REQUESTED ON EACH CERTIFICATE MUST BE COMPLETE FOR THE CERTIFICATE TO BE VALID.

1. The space for primary vaccination against smallpox is to be used only when a person receives his vaccination against smallpox for the first time. If unsuccessful, a new Certificate must be used for a repeat primary vaccination.

2. The dates on each Certificate are to be written with the day in arabic numerals, followed by the month in letters and the year in arabic numerals. Example: 2 Jan. 1978.

3. Vaccinations may be given by nurses and medical technicians if under the direct supervision of a qualified medical practitioner. The WRITTEN signature of the physician or other person authorized by the physician must appear on the Certificate. A signature stamp is not acceptable.

4. If smallpox, yellow fever, or cholera immunization is required for your patient but is contraindicated on medical grounds, you should complete the "Medical Contraindication to Vaccination" statement in the "Personal Health History" section of the Certificates indicating the nature of the contraindication.

5. There is a risk of acquiring *MALARIA* when traveling to parts of the Caribbean, Central and South America, Africa, the Middle East, the Indian subcontinent, and the Far East.

6. Information on malaria prophylaxis, for areas where malaria transmission occurs, for the recommended prophylactic drug regimens, and on preparing patients for international travel may be obtained from your local or State Health Department.

SAVE THIS BOOKLET. YOU MAY HAVE OCCASION TO USE IT FOR FUTURE TRAVEL AND AS A RECORD OF YOUR VACCINATION HISTORY.

INTERNATIONAL CERTIFICATE OF VACCINATION OR REVACCINATION AGAINST SMALLPOX
CERTIFICAT INTERNATIONAL DE VACCINATION OU DE REVACCINATION CONTRE LA VARIOLE

This is to certify that
Je soussigné(e) certifie que _____ sex / sexe _____
whose signature follows
dont la signature suit _____ date of birth / né(e) le _____
has on the date indicated been vaccinated or revaccinated against smallpox with a freeze-dried or liquid vaccine certified to fulfill the recommended requirements of the World Health Organization.
a été vacciné(e) ou revacciné(e) contre la variole à la date indiquée ci-dessous, avec un vaccin lyophilisé ou liquide certifié conforme aux normes recommandées par l'Organisation mondiale de la Santé.

Date	Show by "X" whether Indiquer par "X" s'il s'agit de	Signature, professional status, and address of vaccinator Signature, titre, et adresse du vaccinateur	Manufacturer and batch no. of vaccine Fabricant du vaccin et numéro du lot	Approved stamp Cachet autorisé
1a	Primary vaccination performed / Primovaccination effectuée ☐			
1b	Read as successful / Prise ☐ Unsuccessful / Pas de prise ☐			
2	☐ Revaccination			
3	☐ Revaccination			
4	☐ Revaccination			
5	☐ Revaccination			

THE VALIDITY OF THIS CERTIFICATE shall extend for a period of 3 years, beginning 8 days after the date of a successful primary vaccination* or, in the event of a revaccination, on the date of that revaccination.

The approved stamp mentioned above must be in a form prescribed by the health administration of the country in which the vaccination is performed.

This certificate must be signed in his own hand by a medical practitioner or other person authorized by the national health administration; his official stamp is not an accepted substitute for his signature.

Any amendment of this certificate, or erasure, or failure to complete any part of it, may render it invalid.

LA VALIDITÉ DE CE CERTIFICAT couvre une période de trois ans commençant huit jours après la date de la primovaccination effectuée avec succès (prise) ou, dans le cas d'une revaccination, le jour de cette revaccination.

Le cachet autorisé doit être conforme au modèle prescrit par l'administration sanitaire du territoire où la vaccination est effectuée.

Ce certificat doit être signé de sa propre main par un médecin ou une autre personne habilitée par l'administration sanitaire nationale, un cachet officiel ne pouvant être considéré comme tenant lieu de signature.

Toute correction ou rature sur le certificat ou l'omission d'une quelconque des mentions qu'il comporte peut affecter sa validité.

*See item 1, Instructions to Physicians.

Booklet: Part 3 of six related pages (App. B–9 to App. B–14)

INTERNATIONAL CERTIFICATE OF VACCINATION OR REVACCINATION AGAINST YELLOW FEVER
CERTIFICAT INTERNATIONAL DE VACCINATION OU DE REVACCINATION CONTRE LA FIÈVRE JAUNE

This is to certify that
Je soussigné(e) certifie que _____ sex
sexe _____

whose signature follows
dont la signature suit _____ date of birth
né(e) le _____

has on the date indicated been vaccinated or revaccinated against yellow fever.
a été vacciné(e) ou revacciné(e) contre la fièvre jaune à la date indiquée..

Date	Signature and professional status of vaccinator Signature et titre du vaccinateur	Manufacturer & batch number of vaccine Fabricant du vaccin et numéro du lot	Official stamp of vaccinating center Cachet officiel du centre de vaccination
1.			
2.			

THIS CERTIFICATE IS VALID only if the vaccine used has been approved by the World Health Organization and if the vaccinating center has been designated by the health administration for the country in which that center is situated.

THE VALIDITY OF THIS CERTIFICATE shall extend for a period of 10 years, beginning 10 days after the date of vaccination or, in the event of a revaccination, within such period of 10 years, from the date of that revaccination.

This certificate must be signed in his own hand by a medical practitioner or other person authorized by the national health administration; his official stamp is not an accepted substitute for his signature.

Any amendment of this certificate, or erasure, or failure to complete any part of it, may render it invalid.

CE CERTIFICAT N'EST VALABLE que si le vaccin employé a été approuvé par l'Organisation mondiale de la Santé et si le centre de vaccination a été habilité par l'administration sanitaire du territoire dans lequel ce centre est situé.

LA VALIDITÉ DE CE CERTIFICAT couvre une période de dix ans commençant dix jours après la date de la vaccination ou, dans le cas d'une revaccination au cours de cette période de dix ans, le jour de cette revaccination.

Ce certificat doit être signé de sa propre main par un médecin ou une autre personne habilitée par l'administration sanitaire nationale, un cachet officiel ne pouvant être considéré comme tenant lieu de signature.

Toute correction ou rature sur le certificat ou l'omission d'une quelconque des mentions qu'il comporte peut affecter sa validité.

Booklet: Part 4 of six related pages (App. B–9 to App. B–14)

INTERNATIONAL CERTIFICATE OF VACCINATION OR REVACCINATION AGAINST CHOLERA
CERTIFICAT INTERNATIONAL DE VACCINATION OU DE REVACCINATION CONTRE LE CHOLERA

This is to certify that
Je soussigné(e) certifie que _____ sex
sexe _____

whose signature follows
dont la signature suit _____ date of birth
né(e) le _____

has on the date indicated been vaccinated or revaccinated against cholera.
a été vacciné(e) ou revacciné(e) contre le choléra à la date indiquée.

Date	Signature, professional status, and address of vaccinator Signature, titre, et adresse du vaccinateur	Approved stamp Cachet autorisé
1.		1.
2.		2.
3.		3.
11.		11.
12.		12.

The vaccine used shall meet the requirements laid down by the World Health Organization.

THE VALIDITY OF THIS CERTIFICATE shall extend for a period of 6 months, beginning 6 days after one injection of the vaccine or, in the event of a revaccination, within such period of 6 months, on the date of that revaccination.

The approved stamp mentioned above must be in a form prescribed by the health administration of the country in which the vaccination is performed.

This certificate must be signed in his own hand by a medical practitioner or other person authorized by the national health administration; his official stamp is not an accepted substitute for his signature.

Any amendment of this certificate, or erasure, or failure to complete any part of it, may render it invalid.

Le vaccin utilisé doit satisfaire aux normes formulées par l'Organisation mondiale de la Santé.

LA VALIDITÉ DE CE CERTIFICAT couvre une période de six mois commençant six jours après une injection de vaccin ou, dans le cas d'une revaccination au cours de cette période de six mois, le jour de cette revaccination.

Le cachet autorisé doit être conforme au modèle prescrit par l'administration sanitaire du territoire où la vaccination est effectuée.

Ce certificat doit être signé de sa propre main par un médecin ou une autre personne habilitée par l'administration sanitaire nationale, un cachet officiel ne pouvant être considéré comme tenant lieu de signature.

Toute correction ou rature sur le certificat ou l'omission d'une quelconque des mentions qu'il comporte peut affecter sa validité.

PERSONAL HEALTH HISTORY

This section is provided to include a record of the personal health history of the international traveler and to assist any physician called upon to provide treatment in case of illness or accident. Space is also provided to record immunizations that are not required for entrance into any country but have been obtained by the traveler for additional health protection.

OTHER IMMUNIZATIONS/PROPHYLAXIS RECEIVED
Autres immunisations/prophylaxies reçues
(Immunoglobulin, MALARIA, plague, poliomyelitis, rabies, tetanus/diphtheria, typhoid, typhus, etc. — Immunoglobuline,. PALUDISME, peste, poliomyélite, rage, tétanos/diphtérie, typhoïde, typhus, et caetera)

Date	Vaccine/prophylactic drug Vaccin/drogue prophylactique	Dose	Physician's signature Signature du médecin

MEDICAL CONTRAINDICATION TO VACCINATION
Contre-indication médicale à la vaccination

This is to certify that immunization against
C'est pour certifier que l'immunisation contre

_____ for
(Name of disease — Nom de la maladie) pour

_____ is medically
(Name of traveler — Nom du vogageur) est médicament

contraindicated because of the following conditions:
contra-indiquer à cause des conditions suivantes:

_____

_____

_____

This form is available as part of a booklet (PHS–731). INTERNATIONAL CERTIFICATES OF VACCINATION. (See p. App. B–9 on availability of a free copy and/or sales stock.)

_____
(Signature and address of physician)
(Signature et adresse du médecin)

MEDICATIONS TAKEN REGULARLY (e.g., insulin, digitalis)
Médications pris regulièrement (e.g., insuline, digitale)

Health problem — Problème de santé	Generic and trade names of medication — Noms génériques et commerciaux de la médication	Medication dosage — Dose de médication	Physician's remarks — Remarques du médecin	Physician's signature — Signature du médecin

OPHTHALMIC INFORMATION (prescription glasses)
Information ophtalmique (lunnettes prescription)

		Sphere Sphere	Cylinder Cylindre	Axis Axe	Prism Prisme	Base Courbe
(OD)	Ocular dexter Oculaire droit					
(OS)	Ocular sinister Oculaire gauche					

Add _____ Base curve _____

Addition _____ Courbe base _____

Other _____

Autre _____